

ENERGY EFFICIENCY COMMITTEE WORKSHOP
BEFORE THE
CALIFORNIA ENERGY RESOURCES CONSERVATION
AND DEVELOPMENT COMMISSION

In the Matter of:)
)
Hearing Regarding Proposed) Docket Nos.
Regulations and Draft) 08-AAER-1A
Environmental Impact Report) 08-AAER-1B
for Lighting Efficiency)
Standards)
_____)

CALIFORNIA ENERGY COMMISSION
HEARING ROOM A
1516 NINTH STREET
SACRAMENTO, CALIFORNIA

WEDNESDAY, SEPTEMBER 17, 2008

9:00 A.M.

Reported by:
Ramona Cota
Contract Number: 150-07-001

PETERS SHORTHAND REPORTING CORPORATION (916) 362-2345

COMMISSIONERS PRESENT

Arthur H. Rosenfeld, Presiding Member

Jackalyne Pfannenstiel, Associate Member

ADVISORS PRESENT

Ivin Rhyne

Tim Tutt

STAFF PRESENT

Betty Chrisman

Gary Flamm

Melinda Merritt

G. William "Bill" Pennington

Ken Rider

Harinder Singh

Bill Staack

Peter Strait

OTHER PRESENTERS

Gary Fernstrom, Pacific Gas and Electric Company
(PG&E)

Dr. Paul Bendt, Ecos Consulting

Leo Rainer, Davis Energy Group

Steve Nadel, American Council for an Energy
Efficient Economy (ACEEE) (via telephone)

Amanda Stevens, Energy Solutions

Ted Pope, Energy Solutions

ALSO PRESENT

Dain M. Hansen, National Electronics Manufacturers Association (NEMA)

Andre Algazi, State of California, Department of Toxic Substance Control

Larry Albert, Black & Decker, representing Power Tool Institute (via telephone)

Jean Baronas, Sony Electronics, Inc. (via telephone)

Wayne E. Morris, Association of Home Appliance Manufacturers (via telephone)

Celia Hugueley, Oasis Pool Service and Independent Pool and Spa Service Association (IPSSA)

Bob Nichols, Independent Pool and Spa Service Association (IPSSA)

Mike Gardner, Mike Gardner Pools and Independent Pool and Spa Service Association (IPSSA)

Cheryl English, Acuity Brands Lighting and National Electronics Manufacturers Association (NEMA)

John Green, Cooper Lighting and National Electronics Manufacturers Association (NEMA)

Clark Linstone, Lamps Plus representing American Lighting Association (ALA)

I N D E X

	Page
Proceedings	1
Opening Remarks	3
General Purpose Lighting	8
Public Comment	14
Draft Environmental Impact Report for Lighting Efficiency Standards	
CEC Staff	22
Public Comment	26
Updates and Revisions Necessary for Consistency with Federal Laws and Other Non-substantive Changes	34
Battery Charger Systems Test Procedure	
CEC Staff	37
Public Comment	42
PG&E/Ecos Consulting/SCE	46
Public Comment	55
Residential Pool Pumps and Portable Electric Spas	
CEC Staff	70
PG&E/Davis Energy Group	74
IPSSA	105
Afternoon Session	138
Metal Halide Luminaires	
CEC Staff	138
PG&E/Energy Solutions/ACEEE	143
NEMA	151
GU-24 Sockets, Luminaires and Adapters	178
Portable Lighting Fixtures	
CEC Staff	184
PG&E/Energy Solutions	189
ALA	194
NEMA	--

I N D E X

	Page
Public Comment - All Topics	199
Next Steps	200
Adjournment	202
Reporter's Certificate	203

PETERS SHORTHAND REPORTING CORPORATION (916) 362-2345

1 P R O C E E D I N G S

2 9:00 a.m.

3 PRESIDING MEMBER ROSENFELD: Good
4 morning. Welcome to the 2008 Title 24 Rulemaking
5 Phase I.

6 I am Art Rosenfeld. Chairman
7 Pfannenstiel, who is to my left, and I have done a
8 little trading of committee assignments recently.
9 So you have the same team you are used to except
10 this time I am chairing and Commissioner
11 Pfannenstiel is number two. But we will both be
12 very interested in what is going on today.

13 This is Phase I. Sometime later on this
14 year we hope to get to Phase II, which has to do
15 with TVs, and eventually Phase III, which is other
16 things not even scheduled.

17 I think with that I will again look at
18 Chairman Pfannenstiel and say welcome and ask you
19 if you have anything to say.

20 ASSOCIATE MEMBER PFANNENSTIEL: Just
21 welcome. We have a full day ahead of us with an
22 agenda covering several subjects. So I think we
23 will hand it over to staff.

24 PRESIDING MEMBER ROSENFELD: Well no, I
25 need to make one other introduction. My faithful

1 advisor, John Wilson, has gone on to work for the
2 Energy Foundation and is replaced with David
3 Hungerford, who can't be here today. My second
4 advisor, Ivin Rhyne is on my right. I'm sure Tim
5 Tutt will be here. That's Chairman Pfannenstiel's
6 advisor, whom you all know well.

7 Okay, now it's to staff. Melinda, are
8 you going to run us through this?

9 MS. MERRITT: Yes.

10 PRESIDING MEMBER ROSENFELD: Melinda
11 Merritt.

12 MS. MERRITT: I will start things off.
13 Good morning, everyone. I am Melinda Merritt with
14 the Energy Commission's Appliance Efficiency
15 Program and the project manager for the 2008
16 appliance efficiency rulemaking.

17 First, as usual, I need to go over some
18 building logistics and safety information so bear
19 with me. For those of you not familiar with the
20 building, the closest restrooms are located out
21 the doors of the hearing room to the left. There
22 is a snack bar on the second floor under the white
23 awning.

24 (Whereupon, Advisor Tutt joined the
25 Commissioners at the dais.)

1 Lastly, in the event of an emergency and
2 the building is evacuated please follow our
3 employees to the appropriate exits. We will
4 reconvene at Roosevelt Park, which is located
5 diagonally across the street from this building.
6 Please proceed calmly and quickly. Again,
7 following the employees with whom you are meeting
8 to exit the building.

9 Today's public meeting is the Efficiency
10 Committee's Public Hearing regarding proposed
11 amendments to the appliance efficiency regulations
12 related to lighting efficiency, battery charger
13 systems test procedures, residential pool pumps
14 and substantial updates, clarifications and
15 revisions to the appliance efficiency regulations
16 to be current with federal laws.

17 Today's meeting is also the Committee's
18 public meeting to take comments on the Draft
19 Environmental Impact Report for Lighting
20 Efficiency Standards related to Part A.

21 We ask that any member of the public
22 wishing to speak fill out one of these blue cards
23 so that we can advise our Presiding Member as to
24 who needs to speak when.

25 There are copies of the meeting agenda

1 and Committee Notices and a limited number of
2 copies of the staff reports, other rulemaking
3 documents and presentations available in the
4 foyer. In particular there is a Notice of
5 Proposed Action for both Part A and Part B of the
6 Rulemaking and the Notice of Completion for the
7 Draft Environmental Impact Report.

8 All comments received to date have been
9 posted on our website and we will be posting the
10 slide packs used in today's presentations along
11 with any additional comments received following
12 today's workshop.

13 This workshop is being recorded and the
14 transcript will be posted within two weeks.

15 This meeting is also being broadcast
16 over the Internet. Interested public wishing to
17 participate by phone may call in to the following
18 number, 1-888-469-2078. The passcode is
19 Regulations, the call leader is Melinda Merritt.

20 So in its April Scoping Order and
21 Workshop Notice the Committee Established the
22 scope of Phase I of this proceeding, which is
23 currently divided into three parts. This hearing
24 today is considering possible amendments related
25 to Parts A and B of this proceeding.

1 The topics that are being considered
2 under Part A include general purpose lighting.
3 These are standards for general service lamps.
4 And also portable lighting fixtures, portable
5 luminaires are topics under Part A.

6 Part B topics include metal halide
7 fixtures or luminaires, a proposed test procedure
8 for battery charger systems, revisions to the
9 current standards regarding residential pool pumps
10 and portable electric spas. And again, necessary
11 updates and revisions for consistency with recent
12 federal laws and other non-substantive changes.

13 Just quickly. The most recent events and
14 the remaining schedule for Phase I. The
15 rulemaking documents were published by the Office
16 of Administrative Law at the end of last month.

17 ADVISOR TUTT: Excuse me, Melinda.

18 MS. MERRITT: Yes.

19 ADVISOR TUTT: Can you dim the lights a
20 little bit so it will be easier to see over there.
21 Thank you.

22 PRESIDING MEMBER ROSENFELD: Much
23 better.

24 MS. MERRITT: Okay. The 45-day public
25 comment period with respect to the rulemaking

1 documents, the 45-day language, ends on October
2 13. And comments will be accepted up to October
3 22, which is the scheduled date for possible
4 adoption by the Energy Commission at the October
5 22 Business meeting.

6 Modifications to the 45-day language may
7 be required; and modified text will be made
8 available at least 15 days prior to the noticed
9 Energy Commission adoption. This is 15-day
10 language. And the earliest possible adoption date
11 for 15-day language is December 3, 2008 Business
12 meeting.

13 With respect to the Draft Environmental
14 Impact Report for Lighting Efficiency Standards,
15 the DEIR. The documents were filed with the State
16 Clearinghouse on August 14.

17 There's a 45-day comment period ending
18 October 6.

19 All public comments will be addressed in
20 the final Environmental Impact Report.

21 And possible adoption of that document
22 would be, at the earliest, the October 22, 2008
23 Business Meeting.

24 Lastly, there are a number of documents
25 that are now out in the public. There were two

1 staff reports that were filed in late August that
2 relate to Part A and Part B of the Phase I
3 rulemaking. The staff reports provide the staff's
4 assessment of feasibility, cost-effectiveness,
5 energy use and projected savings on a statewide
6 basis. It summarizes stakeholder proposals,
7 comments that were received and alternatives that
8 were considered. And it summarizes the proposed
9 regulations for all topics.

10 The regulatory documents, the Notice of
11 Proposed Action, the Initial Statement of Reasons,
12 the Express Terms, et cetera, they contain both
13 changes with regulatory effect and changes without
14 regulatory effect.

15 The changes with regulatory effect, the
16 Express Terms, can be found in the 45-day language
17 for Parts A and B.

18 The non-substantive changes, those
19 without regulatory effect, are found in the 45-day
20 language for Part B. That was the receptacle for
21 all of the revisions and clarifications.

22 With that we will start through the
23 agenda. The first topic is general purpose
24 lighting and Harinder Singh from the program staff
25 will summarize the regulations.

1 MR. SINGH: Good morning, everybody. My
2 name is Harinder Singh. I am staff with the
3 Appliance Efficiency Program, Building and
4 Appliance Office. I am presenting proposed
5 regulations for general service lamps.

6 General service lamps, incandescent
7 lamps, use a significant amount of energy on a
8 statewide basis. The proposed regulations provide
9 an opportunity to reduce statewide residential
10 lighting energy use.

11 The proposed regulations are as follows:
12 Adoption of general service lamp definitions as
13 stated in EISA. And adoption of standards
14 described in EISA for general service incandescent
15 lamps for Tier I, one year prior to federal
16 effective dates.

17 Additionally, adopt a backstop
18 requirement for general service lamps stated in
19 EISA as Tier II standard, two years prior to
20 federal effective dates.

21 Furthermore, incandescent lamps shall
22 not contain GU-24 base. This corresponds with the
23 proposed requirement for portable lighting
24 fixtures. This topic will be covered in more
25 detail in the afternoon. GU-24 is consistent with

1 Title-24 2008 Building Energy Efficiency Standards
2 adopted on April 30, 2008.

3 Proposed regulations for state-
4 regulated, general service incandescent lamps for
5 Tier I are shown in Table K-8 and for Tier II are
6 shown in Table K-9. These tables provide details
7 related to the lumen ranges, rated wattage, rated
8 lamp life and proposed effective dates.

9 The proposed regulations are supported
10 by Ecos Consulting and PG&E's analysis and
11 recommendations.

12 These regulations are intended to help
13 meet the AB 1109 requirements for statewide
14 lighting energy reduction by 2018.

15 Proposed regulations are consistent with
16 the federal appliance law that allows California
17 to adopt the Tier I and Tier II lighting standards
18 for general service lamps prior to the federal
19 effective dates.

20 Additionally the proposed regulations
21 meet the provisions of the Public Resources Code.

22 Staff analysis and PG&E's assessment
23 concluded that early adoption of EISA standards
24 will contribute to achieving significant reduction
25 in residential lighting energy consumption as

1 required by AB 1109 by 2018.

2 This will result in approximately 28
3 percent decrease in general service incandescent
4 lamp wattage from 2007 levels.

5 Adoption of proposed Tier II standards
6 will result in an additional 27 percent decrease
7 in general service lamp wattages.

8 Moreover, California will realize
9 substantial energy savings after all existing
10 medium screw base general service incandescent
11 lamps are replaced with energy efficient Tier II
12 lamps.

13 The Ecos and PG&E identified California
14 has approximately 437 million, medium, screw-base
15 sockets in use. The current residential annual
16 statewide energy use by general service
17 incandescent lamps is 17,893 million kilowatt
18 hours.

19 The PG& case study provided an estimated
20 incremental cost of improvement per unit due to
21 the proposed standard is \$1 for Tier I lamps and
22 \$2 for Tier II lamps. Furthermore, the study
23 provides an estimated reduced cost over the design
24 life for the Tier I as \$2.27 and for Tier II the
25 reduced cost is \$3.22. The proposed standard is

1 cost-effective.

2 Modified spectrum. PG&E accounts for
3 the modified spectrum. The PG&E study accounts
4 for the modified spectrum general service lamps
5 for base case in their study. Modified spectrum
6 general service incandescent lamps are less
7 efficacious than the standard general service
8 incandescent lamps and have lower lumens per watt.

9 For Tier I EISA lighting efficiency
10 standards include a table for modified spectrum
11 general service incandescent lamps along with a
12 table for standard general service incandescent
13 lamps. The lumen bins modified spectrum general
14 service incandescent lamps provided in EISA use 28
15 percent less power than the current modified
16 spectrum general service incandescent lamps
17 available in the market.

18 Both PG&E and Energy Commission staff
19 assessments, that is energy use and cost savings,
20 include modified spectrum lamps as a segment or a
21 subset of general service incandescent lamps.

22 Modified spectrum general service
23 incandescent lamps are included in the scope and
24 definition of Tier II.

25 The estimated average life cycle benefit

1 per unit is fairly close to both types of lamps.
2 The estimated design life and incremental cost
3 assumed for both types of lamps are the same.

4 Due to the staff oversight the EISA
5 table for modified spectrum general service
6 incandescent lamps for Tier I was not included in
7 the proposed regulation Express Terms.

8 Staff proposes to correct this oversight
9 in 15-day language with the inclusion of the EISA
10 table and appropriate definitions in Express Terms
11 for Part A as a standard for state-regulated
12 modified spectrum general service incandescent
13 lamps, Tier I, with one year accelerated effective
14 dates in California. The table for modified
15 spectrum is given below.

16 Modified spectrum lamps are included in
17 Part B Express Terms as a federally-regulated lamp
18 consistent with the EISA specifications and
19 effective dates. And this concludes my
20 presentation. Thank you.

21 PRESIDING MEMBER ROSENFELD: Thank you,
22 Harinder. Is there comments and discussion? Does
23 staff have something to say first?

24 MS. MERRITT: Well at this point we
25 have, we will open it up for public comment or

1 comments by particularly interested parties. I
2 think that the National Electrical Manufacturers
3 Association --

4 PRESIDING MEMBER ROSENFELD: Melinda, I
5 can't hear you.

6 MS. MERRITT: Um --

7 PRESIDING MEMBER ROSENFELD: That's
8 better.

9 MS. MERRITT: Okay, sorry. At this
10 point we will entertain any questions to the
11 staff's presentation and open this up for comments
12 from interested parties. I understand we have
13 Dain from the National Electrical Manufacturers
14 Association who would like to make some comments.

15 PRESIDING MEMBER ROSENFELD: And Dain,
16 hold on one second. In making introductions I
17 realized I forgot to introduce the staff at the
18 table here. That's Bill Pennington, Betty
19 Chrisman and Bill Staack. Thank you for being
20 here. Dain, go ahead. And tell us who you are.

21 MR. HANSEN: My name is Dain Hansen, I
22 am with the National Electrical Manufacturers
23 Association, also known as NEMA. We represent
24 about, NEMA has a membership of approximately 450
25 electrical manufacturers in the capturing,

1 transmission, distribution and end use of
2 electrical components.

3 In this rulemaking we are going to have
4 comments throughout the period but my comments
5 today are pertaining to the Tier II standards
6 under this rulemaking.

7 We want to first of all say thank you to
8 all the staff and the Commissioners. It has been
9 good to work with you. We have been going back
10 and forth through this year and been able to have
11 good dialogue and discussions with everyone
12 involved. And I think it is making this
13 rulemaking go along much smoother. So we
14 appreciate that.

15 NEMA recognizes that California is
16 proposing to adopt standards at 45 lumens per watt
17 for incandescent lamps in 2018. NEMA's position
18 is that the ability for California to adopt the
19 standard will be dependant upon the federal
20 activity. As the CEC correctly points out in
21 their staff report, there is federal language in
22 EISA, or the Energy Independence and Security Act
23 of 2007, that places around California their
24 ability to adopt incandescent regulations in 2018.

25 And under this federal law they give

1 California three rules to work around. They say
2 California can adopt a final rule adopted by the
3 federal government two years early in 2018.
4 Number two, they can adopt the backstop standard
5 of 45 lumens per watt if there is no federal rule
6 in place. And number three, continue with
7 standards already in place before EISA.

8 The rules being proposed would only be
9 applicable under option two, which makes this a
10 conditional option. The condition that being no
11 federal rule is in place. If a federal rule is in
12 place California's only option, assuming option
13 three would not be pursued, is to adopt the
14 federal rule two years early. Therefore, in 2018
15 a proposal should be spelled out as a conditional
16 adoption pending the outcome of any federal
17 activity. Whether California states that
18 explicitly or not does not change the conditional
19 affect of this new, of this adoption.

20 Again, NEMA recommends that
21 consideration of our original language stating
22 that California intends to adopt a future rule two
23 years early. A future federal rule two years
24 early. If a federal rule does not happen,
25 California will still have plenty of time

1 approximately ten years from now to adopt a
2 backstop standard as allowed. Thank you.

3 PRESIDING MEMBER ROSENFELD: Thank you.
4 That seems to be what I understood is going on
5 anyway. I am not quite sure. Can I ask staff,
6 maybe Bill Staack. Is the word -- This word
7 conditional. It's implied anyway? I'm not sure
8 if I understand what the controversy is, Bill.

9 MR. STAACK: Underneath the federal law,
10 42 USC Section 6295(i)6(A). And then it's V-I is
11 where the state preemption language is that we are
12 discussing right now. And what we are proposing
13 actually under our authority is to -- It could
14 either be underneath this backstop or Part III,
15 where we are allowed to adopt anything that we
16 want if DOE does not adopt. And that's where we
17 are coming up with the 45 watts per lumen. But
18 the bottom line is --

19 PRESIDING MEMBER ROSENFELD: Lumens per
20 watt.

21 MR. STAACK: Yes, I'm sorry. But the
22 bottom line is whatever we adopt, the effective
23 date isn't until January 1, 2018. There is no
24 preemption issue unless we have adopted something
25 wrong, which won't occur until 2018. By then we

1 have all these years to make a correction if
2 necessary. But I believe staff believes that the
3 45 is cost-effective and feasible for us to adopt
4 that now. And there is no federal preemption
5 issue until the federal law comes into play, which
6 is 2018, January 1.

7 Actually you could say it is
8 conditional. But it could be changed or not
9 changed. We won't know that until the specific
10 date and find out if DOE actually adopts something
11 or not. Does that answer?

12 PRESIDING MEMBER ROSENFELD: I've got to
13 say I really don't see any big difference between
14 Dain Hansen and what you said. I'm happy with
15 either one.

16 MR. STAACK: Well what we are doing is
17 we are putting language in that actually is
18 conditional.

19 PRESIDING MEMBER ROSENFELD: Yeah.

20 MR. STAACK: Because it could be
21 federally preempted, but we don't know that. So
22 we are allowed to adopt standards that are cost
23 effective and feasible. But the effective date is
24 where the federal preemption come in. And we
25 won't know that until 2018, whether there's an

1 issue or not. And we have plenty of time, if we
2 need to, to adjust. You know, if DOE actually
3 does adopt a standard then our standard actually
4 is moot because it is federally preempted.

5 PRESIDING MEMBER ROSENFELD: Okay.

6 MR. PENNINGTON: Just a little bit more
7 clarity. The Commission is not preempted from
8 adopting things. We are preempted from putting
9 into effect standards that we adopt --

10 PRESIDING MEMBER ROSENFELD: Right.

11 MR. PENNINGTON: -- if there is a
12 preemption issue. So there is no preemption that
13 would stop the Energy Commission from adopting a
14 standard today for what it anticipates will be the
15 level that we will to have in effect in 2018.

16 If DOE acts down the line as they are
17 directed then we could adjust that. We could
18 refine that, presumably. If they act reasonably
19 it would be similar to what we are adopting today.

20 PRESIDING MEMBER ROSENFELD: And we are
21 sitting, drawing a line in the sand. Okay, I
22 think I am clear on that. And Dain, you will
23 leave your comments in writing, right?

24 MR. HANSEN: Yes.

25 ASSOCIATE MEMBER PFANNENSTIEL: Art?

1 PRESIDING MEMBER ROSENFELD: Yes.

2 ASSOCIATE MEMBER PFANNENSTIEL: Just a
3 question to NEMA. Dain, would the industry be --
4 Isn't it better for the industry to know this much
5 in advance what California's intention is? It
6 seems like setting this road map for ourselves,
7 for the state, ten years out is a good, is a good
8 thing. And yes, DOE may act a certain way and we
9 end up being preempted from enforcing this. But
10 having it out there seems like it's a valuable
11 piece of information for the industry to know,
12 this is where California intends to be.

13 MR. HANSEN: I specifically can't say if
14 we agree with that or not because I have to talk
15 with the members. But I think I can definitely
16 talk about that. But I think the biggest concern
17 is just to make sure that it's, as has been
18 stated, it's conditional. And just so we know
19 that it would be such.

20 ASSOCIATE MEMBER PFANNENSTIEL: Right,
21 we understand that.

22 PRESIDING MEMBER ROSENFELD: We
23 understand that.

24 ASSOCIATE MEMBER PFANNENSTIEL: That's a
25 legal issue. But from a technical issue is really

1 what I'm saying. Our technical analysis says that
2 45 lumens per watt by 2018 is technically feasible
3 and cost-effective. So that is, I think as
4 Commissioner Rosenfeld just said, our line in the
5 sand. And it seems like that's a valuable piece
6 of information.

7 MR. HANSEN: I appreciate it, thank you.

8 MR. PENNINGTON: Could I make one more
9 comment?

10 PRESIDING MEMBER ROSENFELD: Please,
11 Bill. Bill Pennington.

12 MR. PENNINGTON: Short. I'm sorry for
13 taking time. We are directed by AB 1109 to adopt
14 standards this year that would save a huge amount
15 of energy. And so this adoption at this point in
16 time of the 45 lumens per watt is meeting a
17 commitment relative to 1109 that results in huge
18 amounts of energy. And if we fail to do that then
19 it is unclear whether we are meeting our
20 commitments under 1109. Or less clear, I should
21 say. So that's another reason.

22 PRESIDING MEMBER ROSENFELD: Bill, this
23 famous Huffington Bill, 1109. Which is I think
24 for a reduction to 50 percent by a certain date
25 and I have forgotten what that date is.

1 MR. PENNINGTON: 2018.

2 PRESIDING MEMBER ROSENFELD: By
3 coincidence it's 2018. So Dain, you see a little
4 bit of what is driving us. That tells us to
5 adopt, by golly, and we are going to do that.
6 Thanks, Bill.

7 ADVISOR TUTT: Commissioner.

8 PRESIDING MEMBER ROSENFELD: Tim.

9 ADVISOR TUTT: I would also like to
10 point out that the federal standard has a backstop
11 requirement, as we know, that says that the
12 eventual federal rule should -- it has to be at
13 least 45 lumens per watt or more stricter. So in
14 the case that DOE does adopt something that is
15 greater than 45 lumens per watt.

16 MS. CHRISMAN: Stricter.

17 PRESIDING MEMBER ROSENFELD: That is
18 stricter. If they eventually do that, as they are
19 allowed, I see no reason why we would not adjust
20 to reflect that.

21 PRESIDING MEMBER ROSENFELD: Happily.

22 ADVISOR TUTT: Happily.

23 PRESIDING MEMBER ROSENFELD: Okay.

24 Other comments? Melinda, back to you.

25 MS. MERRITT: Okay. At this point in

1 the agenda we are at the Public Meeting to take
2 comments on the Draft Environmental Impact Report
3 for the lighting efficiency standards considered
4 in Part A.

5 Peter Strait from our program staff will
6 be giving a brief overview of the Draft EIR and
7 then we will open it up for public comment.

8 MR. STRAIT: Thank you, Melinda. First
9 of all I would like to welcome everyone to this
10 hearing. Part of the purpose of this public
11 hearing is to provide an opportunity for the
12 public to comment on the content of the Draft
13 Environmental Impact Report, or DEIR, prepared by
14 the California Energy Commission staff.

15 This DEIR addresses the current status,
16 potential impacts and available mitigation path to
17 follow if California adopted energy efficiency
18 standards for general service lamps and portable
19 lighting fixtures, specifically as it relates to
20 compact fluorescent lamps, or CFLs.

21 Note that the DEIR does not address any
22 of the actions in Rulemaking Part B. Those
23 actions are not known to have any potentially
24 significant impacts and are covered by a separate
25 Negative Declaration.

1 The authority to adopt these regulations
2 stems from the following: Federal law preempts
3 state and local agencies from adopting their own
4 appliance efficiency regulations for any appliance
5 regulated by the Department of Energy, absent a
6 specific exemption.

7 In December of 2007 Congress approved
8 the Federal Energy Independence and Security Act
9 of 2007, also known as the EISA, which set
10 minimal, efficiency requirements for general
11 service lamps. EISA gave California and other
12 states the authority to adopt regulations that may
13 be implemented one year prior to the proposed
14 federal effective date.

15 In addition to California's granted
16 authority, Assembly Bill 1109, as mentioned,
17 expressly requires the Energy Commission to adopt
18 lighting efficiency standards by December of 2008.

19 The Energy Commission proposes to adopt
20 amendments to the appliance efficiency regulation
21 to accelerate the effective dates of the federal
22 Tier I and Tier II lighting efficiency standards
23 as provided in the EISA by one year and two years,
24 respectively.

25 Once the federal lighting standards

1 become effective at the national level,
2 California's lighting standards will be superseded
3 and will no longer be responsible for any
4 potential impacts.

5 The Energy Commission is also proposing
6 to adopt efficiency standards for portable
7 lighting fixtures that increase the energy
8 efficiency of these fixtures.

9 As this proposed adoption is an activity
10 undertaken by a public agency with the potential
11 to result in direct or indirect physical changes
12 in the environment it constitutes a project under
13 the California Environmental Quality Act, or CEQA.
14 CECA requires public agencies to identify and
15 consider the potential environmental effects of
16 their projects. And when feasible, to mitigate
17 any related adverse environmental consequences.

18 Acceleration of the federal lighting
19 standards and increasing the efficiency of
20 portable lighting fixtures is expected to
21 contribute to significant energy savings within
22 the state of California, partly through the
23 increased use of compact fluorescent lamps and
24 fluorescent lamp tubes.

25 Fluorescent lamps of both kinds contain

1 small amounts of mercury. The California
2 Department of Toxic Substance Control, or DTSC, is
3 mandated to regulate hazardous waste and to
4 develop means of keeping such material out of the
5 non-hazardous, solid waste stream. In a prior
6 rulemaking DTSC defined fluorescent lamps,
7 including both CFLs and fluorescent tubes, as an
8 M003 listed universal waste. Because DTSC found
9 that any release of mercury or mercury compounds
10 presents a human health and environmental risk.

11 All M003 listed universal waste must be
12 managed according to the universal waste
13 regulations and sent to a qualified recycler to
14 ensure that the mercury is kept out of the
15 environment. It cannot be disposed of in
16 municipal landfills.

17 The DEIR contends that all potentially
18 significant impacts would be reduced to less-than-
19 significant levels by implementing the universal
20 waste regulations.

21 However, the full management of CFLs and
22 fluorescent tubes has not materialized and most of
23 this waste is currently improperly managed.
24 Therefore the DEIR is formulated under the
25 assumption that the proposed lighting standards

1 will result in a potentially significant impact
2 regarding mercury disposal until the universal
3 waste regulations are implemented and enforced.
4 Such implementation and enforcement is under the
5 authority and responsibility of the DTSC.

6 With that we invite anyone with comments
7 to please make them at this time. To allow
8 sufficient time and to be concise, the staff will
9 not respond to any technical questions at this
10 time. Once staff has had the opportunity to
11 review and develop a precise answer to all
12 questions a written response will be made
13 available to all interested parties within the
14 Final Environmental Impact Report.

15 The 45-day public comment period ends on
16 October 6, 2008. The Energy Commission may
17 consider adoption of the EIR as early as the
18 October 22, 2008 Business Meeting.

19 At this time if anyone has any comments
20 they would like to make related to the Draft
21 Environmental Impact Report I invite you to do so.

22 ASSOCIATE MEMBER PFANNENSTIEL: Peter,
23 is anybody here from DTSC? Could you come up.

24 MR. ALGAZI: Hi, I'm Andre Algazi, I'm
25 with the Department of Toxic Substances Control,

1 formerly the Hazardous Waste Management Program,
2 now part of the Office of Pollution Prevention and
3 Green Technology.

4 PRESIDING MEMBER ROSENFELD: Could you
5 just spell your name for us. We are all very
6 interested in you.

7 MR. ALGAZI: Sure, it's A-L-G-A-Z-I.
8 That's my last name. Andre is spelled --

9 ASSOCIATE MEMBER PFANNENSTIEL: Thank
10 you. Since clearly this whole question of
11 unmitigated impact depends on the ability to
12 process the mercury, or dispose of the mercury,
13 could you just give us a sense of what's happening
14 in that regard. I know that we have talked to
15 DTSC over the past couple of years on a program
16 that would, in fact, require some disposal or
17 recycling of used CFLs. What is happening with
18 that?

19 MR. ALGAZI: Several years ago we
20 adopted the regulation referred to in the
21 presentation, prior to which some fluorescent
22 lighting was classified as hazardous waste and
23 some wasn't. So we in 2003 adopted this listing
24 which basically said a lamp with intentionally
25 added mercury was hazardous waste to be managed

1 under this kind of simpler scheme called the
2 Universal Waste Rule and could not be disposed.

3 In the intervening four or five years we
4 had hoped that a collection infrastructure would
5 develop. We have already got -- We were assured
6 at the time that we did the regulation in 2003 by
7 the lighting recycling industry that they had the
8 capacity to properly recycle all of the
9 fluorescent lighting waste generated in California
10 at that time.

11 And so the problem seemed to be more of
12 a collection and transportation infrastructure
13 shortfall, especially with regard to residential
14 lighting waste. So in the intervening time we got
15 a little sidetracked with electronic waste. The
16 infrastructure for collecting lamps did not kind
17 of spring up spontaneously.

18 When AB 1109 went into place we were --
19 so another provision of this bill that is
20 mandating the regulations that this Draft EIR
21 covers told DTSC to convene a task force of
22 various parties. Mr. Tutt is part of that.

23 So we have had ongoing meetings and we
24 have a report to the Legislature, which is at the
25 Governor's Office. It was actually due to the

1 Legislature on the 1st of September but it hasn't
2 yet gone. But that report recommends some steps
3 to increase the infrastructure for convenient
4 collection and recycling of lamps.

5 So currently from households, based on
6 data submitted by local household hazardous waste
7 collection programs, we have estimated maybe ten
8 percent collection rate. Which is actually
9 significantly better than household hazardous
10 waste in general but not too good.

11 ASSOCIATE MEMBER PFANNENSTIEL: So what
12 is the solution here? I mean, we are sort of
13 trapped in trying to find a disposal or some
14 program that's going to work in California.

15 MR. ALGAZI: Well the solution is --

16 ASSOCIATE MEMBER PFANNENSTIEL: Is it
17 money? Is it organization?

18 MR. ALGAZI: Yes.

19 ASSOCIATE MEMBER PFANNENSTIEL: Both of
20 those?

21 MR. ALGAZI: Yes. So the problem is
22 convenience and cost. One convenient option would
23 be, for example, collection at retail. Which some
24 retailers have already stepped up and offered to
25 do. Most recently Home Depot and some local Ace

1 Hardwares, IKEA.

2 ASSOCIATE MEMBER PFANNENSTIEL: So are
3 they doing it?

4 MR. ALGAZI: Yes.

5 ASSOCIATE MEMBER PFANNENSTIEL: They are
6 actually -- So if I take my burned out CFLs --

7 MR. ALGAZI: You can go to any IKEA or
8 any Home Depot and they'll take them. CFLs, not
9 linear lamps.

10 ASSOCIATE MEMBER PFANNENSTIEL: Right,
11 got that.

12 MR. ALGAZI: So that's likely to be part
13 of a solution for convenient collection. The
14 second issue is funding. Because it is actually
15 not a commodity with a positive value. A spent
16 lamp actually is sort of a liability. It costs
17 money to properly recycle it. Even though they do
18 reclaim various components from it and reuse them
19 for something, the cost of capturing the mercury
20 and what not.

21 ASSOCIATE MEMBER PFANNENSTIEL: Is there
22 a proposal to perhaps put a fee on the price of
23 every CFL such as to create a fund to do this?

24 MR. ALGAZI: Well that has been
25 discussed. One of the sort of premises of the

1 discussion of the task force that we convened was
2 that we did not want to dissuade people from using
3 energy efficient lighting so a variety of things
4 have been talked about. One of which is what you
5 mentioned. Another is some other funding
6 mechanisms. A potentially invisible fee or
7 something coming from the manufacturers and/or
8 some energy efficiency funds from ratepayers,
9 things like that.

10 ASSOCIATE MEMBER PFANNENSTIEL: So what
11 I'm hearing is this is a long ways from being
12 resolved unless, perhaps, there is legislation
13 introduced next session.

14 MR. ALGAZI: Well the outcome of this
15 report will likely be legislation. So the report
16 is basically making recommendations to the
17 Legislature on how to address this issue. So I
18 would expect something to happen.

19 ASSOCIATE MEMBER PFANNENSTIEL: Finally.
20 Thank you.

21 PRESIDING MEMBER ROSENFELD: Thank you
22 very much.

23 MR. ALGAZI: Thank you.

24 PRESIDING MEMBER ROSENFELD: Actually I
25 have one question, Andre. One question occurred

1 to me. I'm sorry, I'm asleep at the switch here.
2 Can you say a word or so, or maybe Tim, about how
3 this problem has been solved in other countries.
4 In Europe, for example. Will practically any
5 retailer take back a CFL? What hopes do you have
6 for Wal-Mart or whatever to step up to the plate?

7 MR. ALGAZI: Well they have a variety of
8 systems in the European Union for collecting lamps
9 from consumers. Lamps are covered under the WEED
10 directive, which is the Waste Electrical and
11 Electronic Equipment Directive in the European
12 Union. And it's kind of country-by-country
13 implementation, it is not consistently done. But
14 they have had some success in some countries in
15 Europe.

16 We had some speakers from Europe at a
17 recent workshop hosted by the Integrated Waste
18 Management Board on extended producer
19 responsibility, which is the concept that the
20 producer of the product should have responsibility
21 ultimately at the end of life for the disposition
22 of their product. And what we heard was that in
23 some cases they have been quite successful in the
24 European Union.

25 We are having, we are doing things a

1 little bit more piecemeal. We are just attacking
2 lamps rather than that directive which was very
3 broad in scope. I wouldn't -- It's hard to say,
4 because it is different from country to country,
5 that we would have something like any particular
6 country in the European Union.

7 But there have been also some cases in
8 localities. The state of Minnesota has had a
9 pretty good program for fluorescent lamp recycling
10 for maybe 10 years or 15 years. Some of the
11 European countries for a number of years. And
12 there are some local programs that have been
13 successful. Madison, Wisconsin, I guess.

14 I don't think our solution will look
15 exactly like any of those but we are hopeful that
16 we will find something that works for, you know,
17 the people of California for it to be convenient.
18 And also for all the stakeholders who are involved
19 in the discussions.

20 PRESIDING MEMBER ROSENFELD: Thank you.

21 MR. ALGAZI: Thank you.

22 MS. MERRITT: Are there any additional
23 comments from any member of the public on the
24 Draft Environmental Impact Report?

25 I don't see any so we can conclude that

1 segment of this hearing and move on to the next
2 topic on the agenda which is Updates and Revisions
3 Necessary for Consistency with Federal Laws and
4 Other Non-Substantive Changes. Betty Chrisman
5 from the program staff will be providing an
6 overview. Betty.

7 MS. CHRISMAN: Thank you, Melinda. For
8 the record, I am Betty Chrisman with the
9 California Energy Commission's Appliance
10 Efficiency Program.

11 Non-substantive changes are shown in the
12 Part B proposed regulations with text that is
13 either struck out or underlined. These reflect
14 changes without regulatory effect found in 10 Code
15 of Federal Regulations, CFR, Sections 430 and 431,
16 federal standards for consumer products and
17 commercial and industrial equipment; 16 CFR
18 Section 305, the Federal Trade Commission's
19 marking requirements; the Energy Independence and
20 Security Act of 2007; and other clarifications.

21 Non-substantive changes are generally
22 changes that do not materially alter any
23 requirement, right, responsibility, condition,
24 prescription or other regulatory element of any
25 California Code of Regulations provision. Such

1 changes may include, but are not limited to:
2 renumbering, reordering, or relocating a
3 regulatory provision; revising structure, syntax,
4 cross-reference, grammar or punctuation; making a
5 regulatory provision consistent with required
6 federal law; or deleting a regulatory provision
7 for which a federal law has been repealed.

8 Section 1605.1 of our regulations,
9 federal and state standards for federally
10 regulated appliances, includes updated or new
11 federal standards for appliances shown on this
12 slide and the next slide. I'll give you a couple
13 seconds to look at that one. This is the second
14 slide for updated or new federal standards.

15 Where appropriate, standards in Section
16 1605.3, state standards for non-federally
17 regulated appliances, have either been removed
18 where federal standards are already in effect; or
19 have an end-date incorporated, where federal
20 standards take effect in the future. In some
21 cases standards recently preempted are kept in the
22 document for reference and will be removed under
23 the next general rulemaking.

24 Both commercial pre-rinse spray valves
25 and pedestrian traffic signals maintain California

1 standards while also having federal standards, as
2 specifically allowed in the Energy Policy Act of
3 2005.

4 Staff welcomes stakeholders review and
5 comments. And this concludes my presentation for
6 this portion. Thank you.

7 PRESIDING MEMBER ROSENFELD: Thank you
8 for an appropriately boring presentation.

9 (Laughter)

10 PRESIDING MEMBER ROSENFELD: I presume
11 there is nobody eager to make comments about this.

12 MS. MERRITT: I guess I'll just
13 underscore our invitation and request of parties
14 to take a look at the very large amount of changes
15 that --

16 PRESIDING MEMBER ROSENFELD: Melinda,
17 can you talk into the mic.

18 MS. MERRITT: Okay, sorry. I just want
19 to reiterate Betty's request that parties take a
20 look at Part B and the really extensive revisions,
21 updates, clarifications that we have made. And
22 we'd welcome any input, corrections, editing that
23 anyone might find. There was quite a bit done
24 there.

25 The next topic on our agenda is a

1 proposed test procedure battery charger systems.
2 And we have Harinder Singh, Energy Commission
3 staff, to make a brief overview. After that we
4 will be handing this off to Pacific Gas and
5 Electric Company with Ecos Consulting for a
6 follow-on presentation. Harinder.

7 MR. SINGH: Hello everybody. For the
8 record my name is Harinder Singh. I am presenting
9 the proposed adoption of battery charger test
10 method.

11 A battery charger system is referred to
12 as a battery charger coupled with batteries.

13 California's appliance efficiency
14 regulations do not currently include test
15 procedures or efficiency standards for battery
16 charger systems.

17 The US DOE, Department of Energy,
18 current test procedure for battery charger systems
19 measures energy consumption in inactive mode.

20 DOE published a Notice of Proposed
21 Rulemaking on August 15, 2008, proposing
22 amendments to the existing test procedures for
23 battery chargers.

24 DOE is required to determine by July 1,
25 2011 if energy conservation standards for battery

1 chargers are technically feasible and economically
2 justifiable.

3 PG&E with Ecos Consulting submitted a
4 proposed information template for battery charger
5 systems on April 7, 2008, recommending that Energy
6 Commission adopt a battery charger system test
7 procedure developed by Ecos, EPRI, funded by the
8 Energy Commission's PIER program and PG&E. PG&E's
9 study identified that over 130 million battery
10 charger systems are in use in California.

11 PG&E's initial proposal examined the use
12 of battery charger systems in California,
13 concluding that battery charger system
14 efficiencies could be improved dramatically and
15 would yield significant energy savings. In
16 addition the proposal recommends that the Energy
17 Commission request that manufacturers or other
18 interested parties submit test data to help
19 develop future battery charger standards.

20 Energy Commission staff conducted
21 various meetings with battery charger trade
22 associations, manufacturers, the Consumer
23 Electronics Association and other industry
24 representatives, with the DOE, Natural Resources
25 Canada and electrical utilities. PG&E and the

1 staff received comments and suggestions from
2 stakeholders and most of the comments have been
3 incorporated into the test procedure.

4 Additionally Part B was added following
5 a meeting with the large battery charger
6 stakeholders and all stakeholders agreed to
7 include testing of large battery charger systems
8 into the Ecos test method. The stakeholder
9 process resulted in Version 2.1.4 of this test
10 method.

11 Staff addressed comments and concerns
12 received from Consumer Electronics and Motorola
13 during the pre-rulemaking process and the staff
14 report. CEA, the Consumer Electronics
15 Association, expressed concern regarding the
16 overlap of the proposed battery charger systems
17 test procedures in the state regulations and
18 federal external power supply regulations.

19 Federal law states that an energy
20 conservation standard for external power supplies
21 shall not constitute an energy conservation
22 standard for the separate end-use product to which
23 the external power supply is connected.

24 It is clear from the federal law that
25 the battery charger systems that are built into

1 separate end-use products are not considered
2 external power supplies. And testing them for
3 energy efficiency standards does not constitute
4 double testing. Moreover, there are no provisions
5 in the proposed test procedure to test the
6 external power supplies or internal power
7 supplies.

8 Staff believes that PG&E and Ecos
9 Consulting's test procedures is comprehensive,
10 measures energy consumption in active, maintenance
11 and standby mode. The test procedure is
12 applicable to a wide range of battery charger
13 system applications.

14 Staff recommends adoption of a voluntary
15 test procedure, the Energy Efficient Batter
16 Charger System Test Procedure, Version 2.1.4,
17 developed by Ecos, PG&E, Southern California
18 Edison and San Diego Gas and Electric as refined
19 through this rulemaking process.

20 Furthermore the staff recommends that
21 the Energy Commission's Efficiency Committee issue
22 a call for submittal of battery chargers test data
23 from manufacturers and interested parties.

24 Staff agrees with the PG&E proposal that
25 there receipt of additional test data will be

1 critical in analyzing how battery charger systems
2 use energy, how energy use relates to the battery
3 chemistry or capacity, and what role technologies
4 and product types play in energy consumption.

5 Current and comprehensive test data will
6 be helpful and is necessary in forming the basis
7 to develop appropriate future efficiency standards
8 for the battery charger systems.

9 A draft template for collection of data
10 has been reviewed by stakeholders and is expected
11 to be finalized soon. PG&E and Ecos will provide
12 more information on schedules and the data
13 collection process.

14 This concludes my presentation. As
15 Peter mentioned, the audience, anybody is welcome
16 to make any comments. Staff will not respond to
17 technical questions, we will take comments. And
18 we will respond to any technical questions
19 received by us in writing. Thank you.

20 TELECONFERENCE OPERATOR: We do have a
21 comment. We do have a comment from Larry Albert.

22 MS. MERRITT: Okay. Larry, are you on
23 the line?

24 MR. ALBERT: Yes I am.

25 MS. MERRITT: All right, this is a good

1 moment then to make your comment.

2 MR. ALBERT: This is Larry Albert
3 representing the Power Tool Institute. I just
4 wanted to comment on the process that took place
5 in the revisions of the test procedure. We
6 believe that we had the opportunity to raise
7 questions and comments and they were to a large
8 extent addressed by the staff and incorporated
9 into the test procedure.

10 Our feeling at this point is that for
11 the most part the test procedure addresses some of
12 the key measurements for active power, standby and
13 maintenance. We believe that it probably
14 represents at least a good starting point for
15 comprehensive measurements of energy efficiency
16 and battery chargers used for power tool
17 applications.

18 Our position, I guess it hasn't been
19 changed from earlier hearings, where we believe
20 that the important consideration here is the
21 adoption of a measurement that takes into account
22 all three quantities in a balanced fashion that
23 represents the actual energy during the use phase
24 of the product. And we believe by having active,
25 no energy, standby and maintenance mode energy

1 represented in the test procedure, by balancing
2 these measurements in a comprehensive way it is
3 possible to come up with a measurement for
4 individual classes of battery chargers that would
5 be reflective to a great extent of their actual
6 energy consumed in use.

7 In addition I guess the only area in
8 which we have perhaps still lingering disagreement
9 with the test procedure is in the measurement of
10 power factor. I understand the comment that we
11 received earlier from PG&E and Ecos with respect
12 to the rationale for measuring it.

13 We believe that it is probably not
14 appropriate to include it in the test procedure in
15 that it constitutes a new avenue of investigation
16 that really doesn't relate back to the energy
17 efficiency of the end product. In addition it
18 opens the door to setting limits for a power
19 factor that we believe would be inappropriate for
20 addressing energy efficiency in battery chargers.

21 Again I would like to thank the staff
22 for being extremely open and willing to make
23 accommodation to stakeholder comment. I believe
24 that the test procedure is a fairly good
25 reflection of the acceptance process. Thank you.

1 PRESIDING MEMBER ROSENFELD: Thank you,
2 Larry. And now I see Fernstrom's hand up.

3 MR. FERNSTROM: Gary Fernstrom, Pacific
4 Gas and Electric Company. Larry, before you
5 conclude your comments, do you have thoughts on an
6 alternative to the measurement of power factor
7 that might provide an indication of the energy
8 efficiency associated with that?

9 PRESIDING MEMBER ROSENFELD: Is Larry
10 still on the line? Gary, I think he is so happy
11 he hung up.

12 MR. ALBERT: Yes.

13 PRESIDING MEMBER ROSENFELD: Larry, are
14 you back?

15 MR. ALBERT: Hello?

16 PRESIDING MEMBER ROSENFELD: Gary
17 Fernstrom has a question for you.

18 MR. FERNSTROM: Larry, perhaps you
19 didn't hear my earlier question. This is Gary
20 Fernstrom from PG&E. I was wondering if you and
21 PTI had thoughts on an alternative way of
22 measuring the energy efficiency associated with
23 power factor in lieu of directly measuring the
24 power factor?

25 MR. ALBERT: Yes. Gary, can you hear

1 me?

2 MR. FERNSTROM: Yes, we can hear you.

3 MR. ALBERT: Okay, sorry. If it's the
4 Commission's intent that the scope of the test
5 procedure and subsequent regulation is intended to
6 measure power losses in the distribution system to
7 the battery charger then it would seem to me that
8 a better way of approaching that would be to
9 measure the power consumption of the product
10 through a test impedance that is reflective of the
11 impedance of the source instead of the
12 distribution system.

13 I think one of the problems with
14 measuring power factor alone is that you have to
15 measure it under some conditions of source
16 impedance, which may or may not be reflective of
17 the actual impedance that is causing the loss in
18 the system. And by measuring it through a test
19 impedance that folks believe is representative of
20 what happens in, for example, residential
21 situations, that intended application, then you
22 would be able to essentially bundle the losses of
23 those distribution system losses into the
24 measurements of the battery charger itself.

25 This is all predicated upon the idea

1 that it would be appropriate to extend the
2 regulation and test procedure to include losses
3 that are not in the product itself but are losses
4 that are incurred in the distribution of power to
5 the product. Which, as I think we have discussed
6 in the past, is a little bit different than some
7 other test procedures we have looked at.

8 But that was the intent. That it seems
9 to me that it would be more appropriate to do it
10 that way. Then basically what you do is you get
11 one number out of that that represents the actual
12 energy consumed. And whether that energy is
13 consumed in the distribution wiring or if it is
14 consumed in the end-product, it really doesn't
15 matter, it is all bunched together.

16 MR. FERNSTROM: Thank you, Larry.

17 MR. ALBERT: You're welcome.

18 PRESIDING MEMBER ROSENFELD: Are there
19 any other comments on battery charger test
20 procedures?

21 MS. MERRITT: Art, I believe we have a
22 presentation by PG&E/Ecos Consulting, Dr. Paul
23 Bendt, as soon as we can call up his slide pack.

24 DR. BENDT: Okay. I am Dr. Paul Bendt
25 and I am here representing PG&E and Ecos

1 Consulting. We have been developing this test
2 procedure over a period of more than five years.

3 And our basic message is we are very
4 happy with the process that has taken place and we
5 encourage the Energy Commission to go forward with
6 the staff recommendation to adopt this test
7 procedure. So my comments today are going to be
8 fairly short because we believe the technical
9 issues have been resolved and a lot of the
10 previous meetings, in the informal meetings the
11 interested parties have had.

12 So again, you have heard a lot about
13 active mode. That the test procedure that has
14 been proposed for the Title 20 is the only one
15 that tests the active charging mode of battery
16 chargers that has received a large amount of
17 testing. So the other test methods that are
18 available are testing only the inactive modes and
19 we believe that testing the active, charging mode
20 is important.

21 This test procedure has been developed
22 over five years with the involvement of many
23 stakeholders. We believe we have largely reached
24 consensus. I can address a little bit of the
25 power factor issues that Larry brought up. I'll

1 do that after the prepared presentation. But I
2 also want to note that this test procedure has
3 been used by several different laboratories at
4 Ecos, at some of the DOE contractors and so on,
5 and has been found to -- that when handed a
6 product the laboratory technician can actually
7 follow the instructions and know how to proceed.

8 There have been a number of proposals
9 put forward that were just idea without actually
10 being tested in a laboratory. And to have the
11 laboratories run through these test procedures
12 through hundreds of products I think is very
13 important for demonstrating that the test
14 procedure is actually going to be useful in
15 practice.

16 The active mode is a very important
17 issue. This is an older slide. But the active
18 mode is about half of the total energy used by
19 battery chargers. It's the purple area on this
20 graph. And it represents a large amount of the
21 savings. So if we are not catching the active
22 mode in our testing we miss the opportunity to see
23 the energy use and we miss the savings that would
24 be there. So we strongly encourage the Energy
25 Commission to adopt this test procedure that does

1 test and examine the active mode energy use.

2 The latest revisions to the test
3 procedure include a new Part 2 covering non-road
4 electric vehicles.

5 And while this is fairly new to the
6 public sphere, it has really been introduced to
7 and through the Energy Commission since this May,
8 but the actual test procedure has been developed
9 over a period of about ten years by Southern
10 California Edison and has been largely accepted by
11 the manufacturers of batteries and battery
12 chargers for the non-road electric vehicles. And
13 so although this was fairly recently introduced
14 there had already been a lot of history of
15 development and a lot of acceptance of the test
16 procedure by the interested parties.

17 So this I believe has been really a
18 pretty non-contentious addition. And we are glad
19 to see that because it does introduce the
20 opportunity of testing a broader scope of products
21 and then introduces perhaps the opportunity for
22 additional energy savings in that broader scope of
23 products.

24 We are looking and requesting that the
25 Energy Commission attempt to gather additional

1 data from manufacturers and other parties. The
2 hundreds of products that have already been tested
3 by these procedures we do believe gives a fairly
4 good idea of what appropriate standards would look
5 like and what appropriate standard levels will be.

6 The call for data is largely just to
7 make sure that we haven't overlooked anything.
8 That there aren't any categories of products that
9 have performance that is significantly different
10 from what we have seen in the hundreds of tests.
11 So we believe that we can advise the Commission on
12 appropriate standards levels, even without
13 receiving more data. But we also believe that it
14 would make the standards more robust and more
15 certain that we are heading down the directions we
16 want if we are able to gather more data.

17 We are particularly interested in
18 getting more data on the non-road electric
19 vehicles. At this point the testing for that has
20 been done by Southern California Edison and by
21 PG&E. Both of those utilities have the labs with
22 the capabilities of doing these tests. We are
23 also interested in products with special
24 requirements.

25 One we have identified is emergency

1 lighting where the lights have to be illuminated
2 continuously. And that requires a standby energy
3 that may exceed what we would otherwise look at as
4 standby energy in battery chargers.

5 We would like to know if there are other
6 special products that have particularly safety
7 obligations or safety regulations they must meet
8 that we would like to be aware of to make sure
9 that the standards are appropriate for those
10 products.

11 As Harinder mentioned, we will provide a
12 template. I believe there is a draft of that
13 template already being discussed. We will make
14 the details on that. We'd be looking at having
15 that template and trying to collect data starting
16 within the next week or so. And we would look to
17 have data collected by November 6 so that it could
18 be analyzed in order to make recommendations to
19 the Energy Commission on standards levels early
20 next year.

21 Just a quick mention of some of the
22 activities at the Department of Energy, since that
23 has been quite significant in how it make affect
24 the California process. The Department of Energy
25 at its meeting last Friday did declare that it

1 intends to include active mode in its test
2 procedure and it is looking at October 2010, or
3 earlier, as a date for publishing a test procedure
4 that would include active mode. We would
5 certainly encourage them to follow the lead of
6 California and we hope that the test procedure
7 that is being discussed here can also become the
8 DOE test procedure.

9 Just as a general time line. We are
10 looking at what we expect in the future. The top
11 o this chart is actions by the CEC and the bottom
12 is actions by the DOE. So you can see across the
13 bottom that the DOE has, at this point, put
14 forward minor changes to its test procedure to be
15 consistent with EISA and has indicated its intent
16 to include active mode in the future. That active
17 mode would be included in 2010.

18 The main thing we want to address here
19 is that as the CEC adopts the test procedure with
20 the current process. We would then hope that the
21 CEC can also put standards proposals forward in
22 2009, beginning by publishing and establishing
23 proposed standards in the early part of the year
24 so that they could be finalized by late 2009 and
25 could be effective at a date that is approximately

1 the time that the DOE would be developing
2 standards federally. This gives an opportunity
3 for the actions of the state of California to have
4 a significant effect on the federal process.

5 I think that concludes the main
6 presentation. We certainly thank the Energy
7 Commission for its efforts over the past years and
8 thank you for the opportunity today. We think the
9 work that has been done has been very good and we
10 would like to see this adopted as proposed in the
11 45-day language.

12 And I guess I will address very briefly
13 the power factor questions raised by Larry Albert.
14 I believe that power factor in fact is the correct
15 measurement to make electronically. There are two
16 reasons for including it in the test procedure.
17 One is that if you do measure it you can then
18 start to measure the losses in the distribution
19 system and start coming up with energy estimates
20 of the energy potential that can be saved there.

21 If power factor is not measured then you
22 are left with a total unknown. You have no idea
23 of what the energy potential might be. So
24 including it in the test procedure I believe is
25 crucial because that starts providing us with the

1 information we need for going forward.

2 As far as including it in standards,
3 there are many ways that that power factor could
4 be included in the standards. And in fact it
5 could be included in a calculation which produces
6 what Larry Albert has asked for, that is, a
7 consolidated measurement of total energy consumed,
8 both by the product and by the distribution
9 system. One can come up with at least reasonable
10 estimates of that just by using the power factor
11 as measured.

12 So we believe that having the power
13 factor measured in the test procedure is the
14 appropriate way of going forward and it does leave
15 open a variety of possible standards that either
16 include or don't include the distribution, wiring
17 or include it in a variety of different ways. So
18 we believe having that measurement is important
19 and it provides the foundation for however that
20 might be incorporated in the proposed standards.

21 And with that I thank you and I guess I
22 again open this up for questions.

23 PRESIDING MEMBER ROSENFELD: Questions
24 or comments?

25 MR. RIDER: We have some questions on

1 the phone.

2 PRESIDING MEMBER ROSENFELD: I'm sorry,
3 did somebody say something?

4 MR. RIDER: Yes. There are some
5 questions on the phone.

6 PRESIDING MEMBER ROSENFELD: On the
7 phone?

8 MR. RIDER: Yes.

9 MR. MORRIS: Yes, hello?

10 DR. BENDT: Yes.

11 MR. MORRIS: This is Wayne Morris from
12 AHAM.

13 DR. BENDT: Good morning, Wayne.

14 MR. MORRIS: Thank you Paul. And I
15 thank the Commissioners and the staff for an
16 excellent job and presentation, thank you.

17 Just a couple of quick comments. I
18 would like to echo the comments that Larry Albert
19 made and applaud the work of the staff. They have
20 worked very hard to make sure that all of the
21 stakeholders had an adequate opportunity to raise
22 questions and concerns during the development of
23 this test procedure. It has truly been a
24 cooperative working activity and we thank them for
25 all of their efforts in that.

1 Just to point out a couple of quick
2 things. We agree with the comments that Larry
3 Albert made in regard to both the development and
4 the process. Also that the test procedure itself,
5 we believe it is appropriate at this time to have
6 a test procedure that measures both the active
7 mode, the no battery mode and the maintenance
8 mode.

9 And I think the graph that Dr. Bendt
10 provided which showed nearly one-half the energy
11 in this maintenance mode is a good example of why
12 we had raised this issue back three years ago.
13 And why we believe that measuring battery chargers
14 under a external power supply test procedure which
15 does not have any measurement of maintenance mode
16 was inappropriate. Now this has been corrected
17 and it is very appropriate for that situation.

18 I would also mentioned that at the
19 Department of Energy hearing last week AHAM along
20 with PTI strongly encouraged the US Department of
21 Energy to modify its test procedure to include an
22 active mode measurement. We call it an E-24
23 measurement. It is relatively simple to do under
24 the DOE test procedure, to take that measurement.
25 It really would not cause a major disruption to

1 the DOE's test procedure.

2 And we truly do not understand why it
3 would take from now until October of 2010 for the
4 Department to modify its test procedure. We urged
5 the Department to do that this fall and have it
6 done by the end of this calendar year so that
7 there is one test procedure operating in the
8 United States and not one for California and one
9 for the rest of the nation. That does not seem to
10 make too much sense to us.

11 We also urged them to consider the
12 adoption of changes in the definitions section so
13 as to bring those sections of the California
14 Energy Commission test procedure into alignment
15 with the Department of Energy test procedure under
16 10 CFR 430.

17 I would also mention that in the data
18 call and in the template we would hope that in
19 addition to the measurements and the information
20 that it should be noted what type of battery
21 charger the measurements are being made against.
22 And particularly under the definitions that have
23 been proposed for adoption in the CEC test
24 procedure. So that battery chargers can be
25 identified as to whether they are of the

1 detachable, integral or swappable type so that we
2 can have a better understanding of that. Because
3 as we begin to roll up that data that will help us
4 in the setting of the standard situation.

5 Lastly I would just like to address in a
6 very short amount the comments that, Dr. Bendt
7 that you made in regards to power factor. I would
8 say that we are in agreement with the comments
9 that Larry Albert made.

10 I understand your comment about having
11 it in the test procedure. We don't believe it is
12 going to show for many of the smaller-type battery
13 chargers that are used in appliances, in power
14 tools, that this will result in a significant
15 amount of energy savings.

16 We do understand that it would be added
17 to the test procedures for the purposes of
18 gathering energy. But we do believe that the way
19 that this should be done is by doing it in
20 accordance with the impedance that would be seen
21 in the actual household environment and not in the
22 manner that is being presented. We don't think
23 that that would be a major change in situation.

24 And also to your point, Dr. Bendt, about
25 adding the total amount of energy from both the

1 distribution as well as the product. That gets
2 into the site source issue that we raised on a
3 number of occasions. We don't believe that it is
4 appropriate to tag the energy of the actual site
5 against the product itself. So we think that that
6 needs for some modification.

7 Other than that we agree with the test
8 procedure as it is presented. We think that the
9 modifications could be made at a later date to
10 bring it into alignment on the power factor issue.
11 I would, again, thank the staff for their very
12 diligent work in both the process and also in
13 cooperation with a number of changes and
14 conditions to this test procedure, as evidenced by
15 just the number of the test procedure alone.
16 Thank you.

17 DR. BENDT: Yes, thank you, Wayne.

18 PRESIDING MEMBER ROSENFELD: I have a
19 question for you, Paul. I have never made a power
20 factor measurement in my life. Do I understand
21 that the answer that you get for the power factor
22 of a battery charger system depends slightly on
23 the impedance of the line which is feeding the
24 system?

25 DR. BENDT: Yes. It does depend

1 slightly on the line that is feeding it. And the
2 general procedure, and this has been used in the
3 IEC, for example, in their study of harmonics,
4 which is a closely related problem but is not
5 quite the same problem, that the general test
6 conditions are that it should be measured with a
7 low impedance source. Now that allows you to
8 measure -- a low impedance source with a very
9 clean sine wave is the ideal measurement. From
10 that one can then largely derive estimates of what
11 power would be lost if you had different
12 impedances of sources.

13 So the general procedure is in a
14 laboratory to test it with a low impedance. And
15 then even though you know in actual practice that
16 there is impedance upstream, it is the low
17 impedance test that is generally used in order to
18 determine the behavior of the product. Then one
19 can use that known behavior in order to determine
20 the upstream impacts.

21 PRESIDING MEMBER ROSENFELD: And so our
22 friends on the phone are suggesting that the
23 impedance be more appropriate for a typical
24 residential circuit? Is that significantly
25 different from what you call a low impedance test?

1 DR. BENDT: Yes it is. There is enough
2 impedance difference there. It doesn't make a big
3 effect in the power factor but it essentially then
4 becomes a question of are you putting the power
5 factor measurement -- Let's see if I can wave my
6 hands enough. One has your power source, one has
7 the impedance of the line that connects it. And
8 then one has the product.

9 And there essentially is a question of
10 whether you are putting your power meter between
11 the source and the line or whether you are putting
12 your power meter between the line and the product.
13 That then determines, in a sense, how you deal
14 with the losses in the line itself. Are they just
15 automatically included in your measurement or are
16 you measuring something that is at the product
17 that has a distorted wave form? In either case
18 you really want a low impedance source.

19 What I am describing as the standard for
20 testing, that is used for testing harmonics in
21 Europe, is they actually do the testing without a
22 line in-between. They use a low impedance source
23 connected directly to the product. But then
24 knowing the current that is drawn by the product
25 allows you to estimate what the losses will be

1 through various different line impedances.

2 And the advantage of that then is that
3 as you have different impedances you can estimate
4 the losses in a variety of different situations.
5 Whereas if you measure the losses in only one
6 situation then you have the -- essentially you get
7 the losses for only one possible distribution
8 impedance.

9 Where, as I say, the procedure that
10 measure the current with a clean wave form and
11 then calculates the losses allows you to calculate
12 them for a wide variety of different possible
13 distribution systems. And we believe that that
14 can then be used to get a much better idea of what
15 the losses will be in a larger, in an actual
16 setting.

17 MR. FERNSTROM: Commissioner?

18 PRESIDING MEMBER ROSENFELD: Yes, Gary.

19 MR. FERNSTROM: Gary Fernstrom. If I
20 could add something. One of the principal
21 advantages of approaching this the way Dr. Bendt
22 suggests is that the losses from multiple products
23 with poor power factors are not simply additive,
24 they are compounding. And by measuring the power
25 factor and approaching this analytically you can

1 get a much better estimate of what the effect of
2 multiple products is.

3 PRESIDING MEMBER ROSENFELD: Okay, Gary,
4 thank you. Okay. Do we have other, somebody else
5 on the phone?

6 MR. ALBERT: Hello.

7 ADVISOR TUTT: We hear you.

8 MR. ALBERT: Okay. This is Larry Albert
9 again from Black and Decker representing PTI. The
10 comment about --

11 PRESIDING MEMBER ROSENFELD: I'm sorry,
12 Larry, would you give us your last name again.

13 MR. ALBERT: I'm sorry, Albert, A-L-B-E-
14 R-T.

15 PRESIDING MEMBER ROSENFELD: Again,
16 okay.

17 MR. ALBERT: Okay, again. The comment
18 about taking the measurement and performing the
19 evaluation analytically is correct providing the
20 impedance that you make the measurement under is
21 the impedance under which you are going to
22 evaluate it.

23 It is not truly possible to be able to,
24 for example, take the measurement with a zero
25 impedance source, and take the power factor at

1 that point and be able to predict how the power
2 factor will change under a variety of different
3 other source impedances without knowing something
4 about the input impedance of the battery charger
5 itself. Consequently, if the measurement of power
6 factor is done under a zero impedance condition
7 the power factor would be unrepresentatively low.

8 And therefore will -- And therefore if
9 you were to apply the effect of that additional
10 current to the scenario where you anticipated
11 having a higher source impedance you would get an
12 unrealistically large amount of additional loss.

13 The test procedure that is used in the
14 IEC test demanded a specific source impedance.
15 That is intended to evaluate, it tends to
16 represent what they believe to be a specific
17 impedance that they can relate to a variety of
18 different installations. So in that way it
19 prescribed what that impedance is going to be.
20 And so what that does is it provides you with a
21 more accurate reflection of what the power factor
22 is going to be.

23 So if, for example, you measure it with
24 a zero impedance source, then obviously the losses
25 associated with that would also be zero. So that

1 can't be a meaningful measurement. If the
2 measurement was made with, for example, an
3 impedance of half an ohm or something like that,
4 that would give you a higher power factor.
5 However, that power factor would be the right
6 value to use for any calculation that was being
7 used with that similar source impedance.

8 But the problem is there is no way of
9 evaluating it accurately, measured at zero and
10 applying it to some other impedance, because that
11 impedance affects the power factor.

12 DR. BENDT: And this is Dr. Bendt. I
13 would agree with Larry that the source impedance
14 does result in small changes in the measured power
15 factor. I don't believe that those changes are
16 going to be the big factors that affect the energy
17 savings. I think that while it is technically
18 correct we are looking at rather small variations
19 there and I don't think those are the big issues.
20 But Larry, I am happy to continue working that
21 out. As we go into talking about proposed
22 standards I think we are going to have a very
23 interesting conversation proceeding on this.

24 MR. ALBERT: Looking forward to it.

25 PRESIDING MEMBER ROSENFELD: I will make

1 the comment, of course, that in the case -- we
2 have, for good or for bad, blundered into a system
3 in which we measure total energy at the device.
4 That is, when one says this is a 75 watt
5 incandescent lamp, we all know that there are US-
6 wide, I don't know, what, six percent transmission
7 losses and three percent distribution losses and
8 so forth, and we just ignore that. So putting in
9 for power factor only is interesting to calculate
10 but it is not the world we have blundered into, is
11 it?

12 DR. BENDT: And I would agree with you
13 that the effects here are not huge effects. The
14 amount of energy that is available by improving
15 power factors across all products probably is the
16 sort of three to ten percent that you are talking
17 about. Some products contribute to that more than
18 others and we would like to be aware of that and
19 be aware of the energy costs that go with that.

20 PRESIDING MEMBER ROSENFELD: I agree.
21 Well, I guess you experts will figure it out.

22 Anybody else on the phone?

23 MS. BARONAS: Dr. Rosenfeld, do you hear
24 me?

25 PRESIDING MEMBER ROSENFELD: Yes ma'am.

1 MS. BARONAS: Oh, wonderful. I am the
2 chair of the IEEE Portable Computer Battery
3 Working Group and I would like to comment about
4 your references --

5 PRESIDING MEMBER ROSENFELD: Hold it, we
6 need to know your name.

7 MS. BARONAS: I apologize. My name is
8 Jean Baronas. I am an employee of Sony
9 Electronics.

10 PRESIDING MEMBER ROSENFELD: And can you
11 spell Baronas.

12 MS. BARONAS: B-A-R-O-N-A-S.

13 PRESIDING MEMBER ROSENFELD: And you are
14 a employee of?

15 MS. BARONAS: Sony Electronics.

16 PRESIDING MEMBER ROSENFELD: Thank you,
17 Jean, go ahead.

18 MS. BARONAS: Okay. I am also the chair
19 of the IEEE Portable Computer Battery Working
20 Group. And I wanted to comment on the references
21 in the draft on page three. The IEEE 1625 has
22 been revised, it has a new title. And the
23 anticipated publication date is 26 September 2008.

24 I would appreciate it if you would adopt
25 this new reference, which is called IEEE Standard

1 for Rechargeable Batteries for Multicell Mobile
2 Computing Devices. This 2008 standard is more
3 indicative of the state of the art and represents
4 many companies' contributions. By the way, I did
5 bring this up at the May meeting that the
6 Commission held in Sacramento.

7 And another point. I just want to thank
8 Dr. Bendt for Section F of the draft on page 15
9 where access to the battery for discharge test is
10 addressed. We really appreciate that the
11 manufacturers' instructions for disassembly of the
12 battery -- our reference there and that the
13 operator is recommended that they follow those
14 instructions.

15 Thank you, this concludes my comments.

16 PRESIDING MEMBER ROSENFELD: Melinda,
17 did you get that information or do you need an e-
18 mail from her?

19 MS. MERRITT: We --

20 PRESIDING MEMBER ROSENFELD: I can't
21 hear you, obviously.

22 MS. MERRITT: Hi, this is Melinda. We
23 will have the transcript from this meeting so we
24 will have everything exactly as spoken. And we
25 will probably follow up with an e-mail with Jean.

1 MS. BARONAS: Thank you, Melinda. I'll
2 be in touch.

3 PRESIDING MEMBER ROSENFELD: Thank you
4 very much, Jean. We need all the help on these
5 details we can get.

6 MS. BARONAS: Okay, thanks everyone.

7 MS. MERRITT: So I think that concludes
8 our --

9 ADVISOR TUTT: Before you conclude I
10 would just like to say one thing. The staff has
11 gotten a lot of kudos for the work involved in the
12 battery charger test procedure and I would second
13 those. I think that it has been a long road and
14 the staff has done a wonderful job here. But I
15 also would like to say that Ecos Consulting and
16 AHAM and PTI have worked very well together and
17 with staff on this and it has been a pleasant
18 process all along.

19 PRESIDING MEMBER ROSENFELD: Thank you,
20 Tim. I echo all of these warm feelings.

21 MS. MERRITT: Thank you. And I do too.
22 It's been a very informative and a very congenial
23 process. Very welcome. So that concludes our
24 section on the battery charger system test
25 procedure.

1 Next we are going to take a moment to
2 download the presentation by Leo Rainer on the
3 next topic and also to quickly download the
4 presentations that we have received so we can make
5 some copies available.

6 PRESIDING MEMBER ROSENFELD: Melinda,
7 you wanted a couple of minutes and we are a few
8 minutes ahead of schedule anyway. What do you say
9 we take a five minute bio or coffee break?

10 MS. MERRITT: Sounds great.

11 PRESIDING MEMBER ROSENFELD: Sounds
12 great. Let's start again at quarter to 11.

13 (Whereupon, a recess was taken off
14 the record.)

15 PRESIDING MEMBER ROSENFELD: Okay, I am
16 chastened. The five minute coffee and bio break
17 idea doesn't work. Next time I'll make it ten.

18 Okay, I guess we are on to residential
19 pool pumps and portable electric spas. And we
20 have a staff report, Melinda?

21 MS. MERRITT: Correct. We have Betty
22 Chrisman from the program staff who will make an
23 overview of this topic.

24 MS. CHRISMAN: Thank you. Once again
25 for the record, my name is Betty Chrisman and I am

1 with the Energy Commission's Appliance Efficiency
2 Program staff.

3 There are a few inconsistencies in the
4 current portable electric spa test method. The
5 current test method specifies minimum water
6 temperature but no maximum; maximum ambient air
7 temperature but no minimum temperature; and
8 reporting of insulation R-values, which are not
9 needed to determine energy efficiency.

10 The proposed regulatory language will
11 insert two-sided temperature tolerances for both
12 water and ambient air and remove the spa
13 insulation R-value and spa cover R-value from data
14 reporting requirements.

15 For residential pool pumps. In 2004 the
16 Energy Commission adopted cost-effective two-
17 tiered standards for residential pool pumps.
18 These standards became effective January 1, 2006
19 and January 1, 2008.

20 These standards are current law.

21 The standard requires use of multi-speed
22 motors and controls for pool pumps greater than
23 one horsepower.

24 The current scope of the appliance
25 efficiency regulations does not include

1 replacement pool pump motors installed in existing
2 residential pool pumps.

3 The original intent of the standards
4 adopted in 2004 was to include both pool pump and
5 motor combinations and replacement pool pump
6 motors.

7 The proposed regulations require: All
8 replacement motors with a capacity of one
9 horsepower or more to have at least two speeds,
10 clarifies the definitions, and corrects the
11 current standard to explicitly include replacement
12 pool pump motors in the scope.

13 Additionally, testing and data
14 certification requirements are added for Curve C
15 in order to facilitate compliance with the Title
16 24 building standards.

17 Data collection is being included to
18 show compliance with the pump control
19 requirements.

20 And the existing marking requirements
21 are being updated in order to better inform
22 installers and inspectors of the two-speed
23 controller requirements found in Title 20.

24 The proposed regulations are feasible
25 and cost effective. The proposed amendments do

1 not increase or decrease the required efficiency
2 of the existing standard. The cost-benefit
3 analysis has been updated to better represent the
4 market conditions of 2008.

5 Specifically staff's analysis shows that
6 the proposed standard is cost-effective,
7 reflecting an incremental cost of improvement per
8 unit of \$420. With the reduced total costs to the
9 consumer over the design life of the residential
10 pool pumps equaling \$1,223. Residential pool
11 pumps current annual statewide energy use is 1,760
12 million kilowatt hours as of 2008.

13 This concludes staff's presentation on
14 the proposed changes to portable electric spas and
15 residential pool pumps. Thank you.

16 PRESIDING MEMBER ROSENFELD: Thank you,
17 Betty. We have some blue cards. Is there anybody
18 first in the room who wants to make some comments?

19 MS. MERRITT: Art, I believe first we
20 will be hearing from Pacific Gas and Electric
21 Company and Davis Energy Group. This is Leo
22 Rainer.

23 PRESIDING MEMBER ROSENFELD: Sorry, Leo,
24 I goofed.

25 MR. RAINER: I am Leo Rainer with Davis

1 Energy Group, here representing PG&E. I would
2 like to thank the Commission for allowing us to
3 speak on this and --

4 PRESIDING MEMBER ROSENFELD: Microphone,
5 Leo.

6 MR. RAINER: A little more?

7 MR. PENNINGTON: Speak up a little
8 louder.

9 MR. RAINER: How is that?

10 PRESIDING MEMBER ROSENFELD: You're
11 tall.

12 MR. RAINER: I'm tall and I don't like
13 to bend over this far. But I'll do it.

14 (Laughter)

15 MR. RAINER: I am going to talk about
16 pool pumps first. I didn't get things in order.
17 The Commission talked about spas first. I could
18 just cover spas quickly and then we could go to
19 pools and split up the questions. Melinda, should
20 we just cover spas?

21 MS. MERRITT: I would just go through.

22 MR. RAINER: Okay. I am going to do a
23 little bit of discussion before my presentation to
24 try to bring people up to speed on horsepower.
25 That has been one of the contentions.

1 The regulations are written in terms of
2 total horsepower. The pool industry discusses
3 pool pumps in terms of nameplate horsepower. So
4 when someone in the industry talks about a three-
5 quarter horse motor they are talking about a
6 three-quarter horse nameplate motor. Now that is
7 typically a full-rated motor, meaning it has a
8 service factor of 1.67. And that means it has a
9 total horsepower of 1.25.

10 Now I won't go into it could also be an
11 upgraded motor, meaning it has like a 1.2 service
12 factor and it has a different total horsepower.
13 I'm going to stick with typical industry
14 conventions, which is full-rated. And in my
15 discussion I am going to be using industry
16 nameplate. I am going to be talking about three-
17 quarter horse motors, one horse motors.

18 In the regulation we use total
19 horsepower and that's because total horsepower is
20 the only thing you really can regulate. If you
21 regulated nameplate horsepower you would allow
22 games with the service factor and you could come
23 up with any nameplate horsepower you wanted by
24 adjusting the service factor. So that's the
25 reason that the standards are written in terms of

1 total horsepower.

2 PRESIDING MEMBER ROSENFELD: Leo, let me
3 exhibit my ignorance. I have never a cite like
4 that before. That's a huge service factor. Can
5 you say a word or so about my deep confusion.

6 MR. RAINER: Service factor. The reason
7 for service factor, as most people know, is really
8 for safety. You need a safety factor when you are
9 installing equipment. The service factor for
10 small pumps is enormous. And the reason that it
11 has been -- The industry can probably help me out.

12 But probably about 40 years ago the
13 industry was having problems with failures in pool
14 pumps due to their installation being outside in
15 hot conditions and the weather and they asked for
16 a higher service factor so that they could replace
17 the same size horsepower pump and still get
18 lifetime out of it. So they increased the more
19 typical 1.25, 1.4 service factor up to 1.67 on the
20 smaller pumps. As you get up larger you can see
21 you get service factors that are more typical of
22 what service factors really should be.

23 What also happened is once you got these
24 large service factors you then also got the
25 manufacturers playing games with the service

1 factor to come up with up-rated pumps. So that
2 you could sell a three-quarter horse up-rated
3 pump, which would be a --

4 Let's say you could sell a one horse up-
5 rated. It would be one horse with like a 1.25
6 service factor, which would have the same total
7 horsepower as a three-quarter full-rated. So you
8 could say, I'm going to sell you a one horse motor
9 for the same cost as a three-quarter. Now it's
10 the same motor. They were playing games and
11 saying bigger is better and larger horsepower. So
12 now you have not only is the service factor large
13 but it also doesn't always mean anything.

14 But this is what the industry is at
15 right now. We tried to help somewhat by requiring
16 the labeling of total horsepower on both the pump
17 and the motor. So that when motors get replaced
18 -- What is important is that you do not replace a
19 motor that is smaller total horsepower than what
20 is on the pump currently because then you will
21 burn the motor out. It's okay to replace, put too
22 large a motor on an existing pump but too small a
23 one is dangerous.

24 PRESIDING MEMBER ROSENFELD: I'm living
25 in a world in which if I look at the nameplate on

1 a three-quarter horsepower motor, but I measure
2 its load while it is actually running it will be
3 way up there at --

4 MR. RAINER: We hope it won't be up at
5 1.25. Hopefully that three-quarter horse is on a
6 three-quarter horse pump.

7 PRESIDING MEMBER ROSENFELD: Okay.

8 MR. RAINER: And it might be drawing,
9 let's say, one horse. It's probably putting out
10 more than three-quarters.

11 PRESIDING MEMBER ROSENFELD: But not
12 1.25.

13 MR. RAINER: But hopefully it's not at
14 1.25 because then you would be exceeding the
15 service factor and you would have a shorter life.
16 But yes, it is probably drawing significantly more
17 than three-quarter.

18 MR. FERNSTROM: Commissioner, if I could
19 add something. This is Gary from PG&E.
20 Representatives from Jandy have told me that not
21 only the motors but the pumps in fact have a non-
22 written, non-published, non-labeled service factor
23 as well. So you could well get a three-quarter
24 horsepower nameplate product that is in actuality
25 a one horsepower pump in terms of the impeller and

1 the load that is placed on the motor.

2 PRESIDING MEMBER ROSENFELD: The
3 regulations that we just went through are all in
4 terms of nameplate.

5 MR. RAINER: No, they are in terms of
6 total horsepower.

7 PRESIDING MEMBER ROSENFELD: They are in
8 terms of total horsepower.

9 MR. RAINER: And the reason for that is
10 because that -- Total horsepower does mean
11 something.

12 PRESIDING MEMBER ROSENFELD: Yes.

13 MR. RAINER: It is not used in industry
14 and that is the difficulty. Is that we are
15 talking total horsepower, industry talks nameplate
16 horsepower.

17 MR. FERNSTROM: And much to my amusement
18 the highest service factor I have seen is 2.1.
19 Where in fact the motor is twice as big or has a
20 total horsepower rating 2.1 times what the
21 nameplate says.

22 MR. RAINER: So this is really -- I am
23 going to be talking about three-quarter horsepower
24 motors quite a bit here. When I say three-quarter
25 horsepower motor, just to let you know, that's a

1 three-quarter horsepower, full-rated, 1.67 service
2 factor, 1.25 horsepower total. So in other words,
3 under the current regulations it would be required
4 to be two-speed.

5 PRESIDING MEMBER ROSENFELD: Thank you
6 for getting --

7 MR. RAINER: Maybe we can come back to
8 this after.

9 PRESIDING MEMBER ROSENFELD: -- getting
10 me partially unconfused.

11 MR. RAINER: You are not the only one.

12 MR. FERNSTROM: I was going to say, if
13 we could add any more confusion to the discussion
14 we would be delighted.

15 (Laughter)

16 MR. RAINER: I am going to address some
17 of the IPSSA issues. The Independent Pool and Spa
18 Service Association submitted comments in
19 September based on the proposed language. And I
20 am going to address specifically their concern
21 that two-speed pool pumps operating on low speed
22 do not work well with sand filters, erosion
23 chemical feeders and solar heaters.

24 And then they also provided an example
25 to show that two-speed, three-quarter horse,

1 that's a three-quarter horse nameplate motor, does
2 not save energy compared to a single-speed three-
3 quarter.

4 And that the use of three-quarter horse
5 replacement motors by the industry in order to
6 downsize larger pumps provides significant energy
7 savings. And by requiring that replacement motors
8 be two-speed we are removing that significant
9 energy savings opportunity for the industry.

10 So just a note about things we do agree
11 upon. I would like to make a comment that IPSSA
12 has been very agreeable with our discussions and
13 that we both are on the same side of the page as
14 far as both wanting energy efficiency for swimming
15 pools. They do their best to provide energy
16 efficient pool pumps for their customers. And
17 they have their concerns as far as serviceability,
18 we have our concerns as far as energy savings.

19 We have had a number of very good
20 meetings. We have come to agreement on a number
21 of assumptions that are critical in terms of
22 deciding on the energy efficiency. One is the
23 average number of hours of operation of a single-
24 speed pump. We are going to be using 4.2 hours
25 per day. Our initial analysis used 4.6 so we have

1 come down to 4.2. I'll talk about their initial
2 calculations used 3.75.

3 We are going to use two hours per day of
4 high-speed operation. In other words the two-
5 speed pool pump has to operate at high-speed for
6 two hours to provide operation of the pool cleaner
7 and the skimming operation. So that's two hours
8 per day.

9 And then there is some question as to
10 what pool system curve should be used in terms of
11 analysis. We had used the curve A, which is the
12 lowest pressure drop of the two curves that were
13 in the original standards. We used that for our
14 analysis.

15 IPSSA had proposed using some data that
16 they had gathered for a curve that is about
17 halfway between A and C. C is the less-
18 restrictive new curve that is being proposed for
19 use with Title 24. We think that is a reasonable
20 curve to use so that's the one we used for the
21 analysis. Actually the curve that is used, A, C
22 or even B, doesn't have a large effect on the
23 cost-effectiveness because of the characteristics
24 of the curves.

25 So those are our agreements. I am going

1 to talk a little bit about the other comments.

2 First, sand filters.

3 PRESIDING MEMBER ROSENFELD: Leo.

4 MR. RAINER: Yes.

5 PRESIDING MEMBER ROSENFELD: Go back

6 one.

7 MR. RAINER: I will try.

8 PRESIDING MEMBER ROSENFELD: Good luck.

9 MR. RAINER: There, I got the right one.

10 PRESIDING MEMBER ROSENFELD: I live in
11 Berkeley, I don't know much about swimming pools.
12 The two hours a day of high-speed operation. You
13 say that is necessary to do skimming and what?

14 MR. RAINER: Operating of automatic pool
15 cleaners. Those are the little things that wander
16 around the pool, they spray water around, mix the
17 water. Those don't operate well on low speed,
18 they need the higher pressure to operate. So in
19 order to get distribution and cleaning -- and
20 skimming operation is the removal of surface
21 debris to the skimmer, which is the top return in
22 a pool.

23 PRESIDING MEMBER ROSENFELD: And it is
24 generally accepted that we are stuck with those
25 two devices at high-speed?

1 MR. RAINER: I actually don't have good
2 numbers. I have numbers anywhere from 60 to
3 greater than 90 percent of pools have automatic
4 pool cleaners. So I think two hours is on the
5 high side but we are willing to -- we had come up
6 with a 1.3 hour average but we are willing to come
7 up with a two hour agreement. But I think that is
8 quite conservative. I don't think -- There are
9 very few pools that would need longer than two
10 hours of high-speed operation.

11 PRESIDING MEMBER ROSENFELD: Thank you.

12 MR. RAINER: So sand filters. Sand
13 filters represent a very small fraction of the
14 pools in California. It's very regional in terms
15 of pool equipment, both nationally and within
16 California. Within California about ten percent
17 of pools in the PG&E territory have a sand filter,
18 almost none in Southern California have sand
19 filters. So it's less than ten percent of pools
20 have sand filters.

21 But there is some concern that operating
22 at low speed does not use the sand bed. And this
23 is true that when you are running at low speed you
24 only use about the top two inches of the sand
25 filter. It doesn't fully penetrate the sand bed.

1 However, in discussion with -- I have talked with
2 three pool experts who say there is not a problem
3 using sand filters. And that operating on high
4 speed at least a half-hour will allow the dirt to
5 penetrate the full depth of the bed. And that we
6 are already assuming two hours of operation on
7 high speed so this is no additional high-speed
8 operation that would be required for some filters.

9 Erosion chemical feeders. This is a
10 long name for what would be called an automatic
11 chlorinator. These are devices that automatically
12 add chlorine or bromine sanitizing chemicals to
13 the pool water. They work by putting solid
14 chlorine into a canister that water is run over
15 and then it is eroded. In other words it just
16 dissolves into the water. They require what are
17 called on-line or in-line -- off-line or in-line.

18 The in-line ones are actually in the
19 line of the pool and they are typically not
20 recommended because they add restriction. Off-
21 line have a pipe around the heater and the filter
22 to provide flow through the device.

23 Talking to manufacturers they say that
24 they need about 20 gallons per minute of flow.
25 And three-quarter horse, two-speed pumps, which

1 are the smallest that we are requiring, can
2 provide 20 gallons per minute on the most
3 restrictive curve, which is Curve B.

4 Also discussing with other pool experts,
5 these can be adjusted. There is an adjustment
6 knob on them. And we are operating them at high
7 speed for two hours per day and then low speed for
8 the rest of the time. You can adjust that
9 adjustment so that your chemical balance is
10 correct. You may take a little bit of time to get
11 it correct when you go from a one-speed to a two-
12 speed but there is not a problem in actually
13 getting it set up.

14 And lastly, solar heaters. A fraction
15 of pools, about 12 percent of pools in California
16 have active solar heating. These are panels
17 through which the pool water is circulated at the
18 times of the year when you would like additional
19 heating to the pool.

20 The problem with solar collectors is you
21 add a significant amount of head because you are
22 putting these collectors on the roof, typically.
23 Maybe even the roof of a two-story house. They do
24 add significant head and the need to at least
25 start them on high speed. And there are

1 definitely collectors which will not maintain flow
2 on low speed, at least without changes to the
3 system.

4 We think this is a valid concern so we
5 have adjusted our calculations to account for
6 this. Again, the current residential appliance
7 saturation survey shows that 12 percent of pools
8 have solar pool heaters. We assume that about 85
9 percent of these have a single pump that would
10 require it to operate on high-speed and that we'd
11 operate it about three months of the year to add
12 additional heating. All those together mean that
13 about three percent of the pools would have to
14 operate full-time on high speed. You would not
15 get the energy savings of operating on low speed.

16 There is a simple fix if you want to use
17 a two-speed pump with solar, is to add a booster
18 pump to the low speed operation, but that's an
19 added cost. But that's a much more efficient way
20 to operate this whole --

21 PRESIDING MEMBER ROSENFELD: What would
22 be the payback time for that instead of paying
23 your extra electric bill?

24 MR. RAINER: I didn't analyze that but
25 that would be a good thing to add. But that's,

1 again, that isn't something that is in the
2 regulation. We can't require -- This being Title
3 20 we can't require that people who buy a two-
4 speed pool pump tell us whether they have a solar
5 system and they need to purchase a booster pump.
6 But that is something that could be addressed in
7 Title 24.

8 Now I am going to talk about the --

9 MR. FERNSTROM: Excuse me, Leo.

10 MR. RAINER: Yes.

11 MR. FERNSTROM: This is Gary from PG&E.

12 If I could add, for those consumers that have them
13 I think there is a good voluntary energy
14 efficiency program opportunity with solar pool
15 heating that has not to do with the natural gas
16 that might be saved but the reduction in electric
17 pumping load if the solar collector presented less
18 resistance to the flow of water.

19 PRESIDING MEMBER ROSENFELD: That means
20 a different design for a new solar collector.
21 This isn't a retrofit measure, Gary, that you are
22 suggesting, is it?

23 MR. FERNSTROM: No, it wouldn't be a
24 retrofit measure because it is contingent upon the
25 solar collector itself.

1 PRESIDING MEMBER ROSENFELD: But it
2 could be an incentive program.

3 MR. FERNSTROM: I believe there is an
4 opportunity, yes, for that.

5 MR. RAINER: Okay, I am going to address
6 one of the other IPSSA comments, which is the
7 economics of changing a three-quarter horse,
8 single-speed pump to a three-quarter horse, two-
9 speed pump, as would be required if replacement
10 motors of greater than one total horsepower are
11 required to be two-speed.

12 The initial IPSSA analysis resulted in a
13 -62 kilowatt hours per year savings. So obviously
14 not cost-effective. Some of the assumptions in
15 there. One is the single-speed operation of 3.75
16 hours per day. That's been increased to 4.2.
17 Their estimate of low-speed power was based on a
18 full-load amp or amp measurements and the voltage
19 resulting in a low-speed power of 540 watts.

20 This doesn't take into account power
21 factor, which we have been discussing in the
22 previous discussion. Power factor on the low-
23 speed, because these are small motors, is
24 typically about 60 percent. And measured low-
25 speed operation from listed pumps at low-speed is

1 typically between 300 and 350 watts. The analysis
2 that we are doing used 342 watts for low-speed
3 operation.

4 Also the analysis looked at a single
5 pump pair, just the Pentair Whisperflow in single-
6 speed and two-speed. Actually that comparison is
7 favorable to two-speed. But we felt that we
8 should look at the entire set of two-speed pumps
9 available so we looked at a set of seven pumps and
10 took the average. And that actually is more
11 conservative than looking at just the Whisperflow
12 pair.

13 The results of using the above
14 assumptions, including three percent to operate on
15 the high speed to account for solar, is that there
16 is a savings of 516 kilowatt hours per year for a
17 pool going from a three-quarter horse to a three-
18 quarter horse two-speed. However, the cost-
19 effectiveness is more dramatic. The benefit-to-
20 cost ratio comes out almost exactly at one. So
21 this is a balanced measure.

22 However, the three-quarter horse
23 represents about one-third or less than one-third
24 of the current pool pumps in California. So I am
25 unsure what the total program looks like.

1 The blue bars here are the savings for
2 each of the nameplate horsepower pumps. Starting
3 on the left the three-quarter horse, one horse,
4 one-and-a-half horse and two horse. About less
5 than a third of current pumps are three-quarter,
6 another third are one horse. About 20 percent are
7 one-and-a-half horse and about ten percent are two
8 horse currently in California.

9 As you can see the energy savings
10 increases as you go up in size. And this is the
11 energy savings going from single- to two-speed.
12 In the yellow are the savings that would be
13 accounted for reducing the size of the pool pump
14 down to a three-quarter horse, single-speed. This
15 is the option that IPSSA would like to maintain by
16 allowing for three-quarter horse, single-speed
17 replacement motors.

18 You can save a significant amount of
19 energy doing this and it is highly cost-effective
20 because your cost is, you are going to actually a
21 smaller motor and less cost. But you are forgoing
22 about 200 kilowatt hours per year typically for
23 any of them. The two-speed is a higher energy
24 savings and still cost-effective. Your benefit-
25 to-cost ratio for the one horsepower is about 1.4,

1 and for the one-and-a-half horse and two horse
2 your benefit-to-cost ratio is about two.

3 So when we put all these together,
4 three-quarter horse, two-speed motors save a
5 significant amount of energy, though currently at
6 marginal economics. A couple of comments on that.
7 Three-quarter horse, two-speed pumps are currently
8 expensive. There are not a lot of them. We
9 expect the cost for three-quarter horse, two speed
10 pumps to come down.

11 Manufacturers are also about to release
12 efficient low-speed, two-speed pool pumps.
13 Currently the low-speed operation of two-speed
14 pool pumps is low efficiency, as can be seen from
15 the low power factor. Basically reduce the number
16 of poles. AO Smith, one of the major
17 manufacturers, will be releasing a high-
18 efficiency, two-speed pump, which will improve the
19 economics significantly.

20 Also, if we were to allow for three-
21 quarter horse, single-speed replacement motors, a
22 significant number of replacement motors would go
23 to the single-speed, three-quarter rather than to
24 a two-speed. And the lost energy savings here, as
25 represented in the top row, is what would be for

1 the current 45 day language where 100 percent of
2 pools are replaced with two-speed.

3 If we assume that half of those go to
4 single-speed because of the single-speed being
5 available we would be losing -- over the ten year
6 lifetime of the motors we would be forgoing 93
7 gigawatt hours of energy savings and 44 megawatts
8 of demand.

9 So finally, our recommendations. We
10 recommend retaining the current 45 day language
11 which stipulates one total horsepower for
12 replacement motors. This provides consistency
13 with pump/motor combinations which is currently in
14 law. And it prevents a loss of savings due to
15 going to single-speed motors rather than two-speed
16 motors.

17 We do propose a new -- We will be
18 submitting comments on a few small changes. One
19 is we would recommend using the total horsepower
20 definition in the language. Currently there are
21 two definitions, one is total horsepower and the
22 other is pool pump motor capacity, and we think
23 that is confusing. Total horsepower is used
24 within the industry and we would like to stay with
25 the single, consistent definition.

1 There is some ambiguity as to when the
2 effective date of the replacement motor regulation
3 would take effect. I think it would be good to
4 have an explicit date in the language.

5 And also there are some suggested
6 changes in terms of multi-speed pump listing.
7 Currently the 45 day language has a change to
8 require two-speed pumps to be listed just at their
9 default speed, which is at a low speed. We think
10 it is important to test multi-speed, both
11 variable-speed and two-speed, at two speeds, both
12 their default speed and their high speed.

13 And that concludes my presentation on
14 pools. Do you want to take comments on pools and
15 we'll go to spas after?

16 PRESIDING MEMBER ROSENFELD: Yes. Bill
17 Pennington is signaling.

18 MR. PENNINGTON: I have a question about
19 Slide 10. Could you go back to Slide 10. My
20 question is, how feasible is it to go from an
21 existing system that is using a two horsepower
22 motor to a three-quarter horsepower?

23 MR. RAINER: It actually is quite
24 feasible. What they do is they replace the motor
25 with a three-quarter and they replace the impeller

1 with a three-quarter horse impeller. So you use
2 the same pump housing. It obviously depends on
3 the type of pool pump. If it is an older, like
4 let's say an older bronze pool pump, I would
5 expect that the service person would not do that
6 and would replace the entire device. But on many
7 pool pumps that is quite feasible. And there are
8 people from the industry in the audience who I
9 think might be able to speak more to that.

10 MR. PENNINGTON: So making the --

11 MR. FERNSTROM: Bill, Bill, if I could
12 add something. This is Gary from PG&E. Leo is
13 correct in that it technically quite feasible.
14 However, oftentimes we see pools with one motor
15 serving all of the pool-related functions. So the
16 motor might serve the solar collector, the
17 associated spa and so on.

18 In that case the builder might have
19 simply used a two horsepower motor. And
20 substituting a three-quarter, while it would be
21 adequate for filtration, might not allow the spa
22 to perform satisfactorily. So I think the folks
23 from the trade that are here today would say that
24 the answer to the type of question you have raised
25 depends strongly upon the pool and it varies a lot

1 from pool to pool.

2 PRESIDING MEMBER ROSENFELD: So Gary,
3 how would you get around that? Would you talk
4 about exemptions for multipurpose?

5 MR. FERNSTROM: Well my solution would
6 be the two multi- or variable-speed. It gives you
7 the benefit of having the two horsepower there if
8 you want it and need it for the spa and it gives
9 you the advantage of a much lower horsepower for
10 ordinary filtration.

11 PRESIDING MEMBER ROSENFELD: Okay.

12 MR. PENNINGTON: So I have a question
13 about what Leo said related to changing the
14 impeller or making changes in the pump that would
15 accommodate a drop down from a larger to a smaller
16 motor. How do the costs of those kinds of
17 modification changes to the pump compare to the
18 cost of going to a two-speed motor? There seems
19 to be an implication here that it is considerably
20 lower cost to convert to three-quarters than it is
21 to install a two-speed motor. And so I am trying
22 to understand, is that real or, you know?

23 MR. FERNSTROM: I would have to defer to
24 our experts from the trade because I don't have
25 direct knowledge of that. But here are the

1 component issues associated with it. To downsize
2 the impeller you need a smaller impeller and the
3 time associated with installing it. You need a
4 less expensive downsized motor. To go to the two-
5 speed you don't need to change the impeller but
6 you are buying, at least in the short run, a more
7 expensive two-speed motor. But I see Celia is
8 here and she probably knows the answer to this
9 better than any of us.

10 MS. HUGUELEY: This is Celia Hugueley.
11 I am with Oasis Pool Service and IPSSA.

12 As far as downsizing goes, we have to
13 take the impeller off every time we change a motor
14 so it is not too much extra. It is no different
15 in the labor, you still have to change the seal
16 and the impeller. And so the incremental cost I
17 think Leo, you established or staff came up with
18 \$420. At other times I have seen \$477 as the
19 incremental cost of upgrading to a two-speed. So
20 I would, you know, just back off of that. So you
21 have approximately \$500, you know. The impeller
22 probably costs \$35 so somewhere a little shy of
23 \$500 less to downsize.

24 MR. PENNINGTON: Could you --

25 MS. HUGUELEY: And it has the same,

1 because it has the same timer and you don't have
2 to change any of that.

3 MR. PENNINGTON: Could you give an
4 educated guess as to what frequency of occasions
5 would you consider downsizing from a two-speed to
6 a three-quarters? You have the situation where
7 the motor was sized, as Gary was suggesting, to do
8 all the functions at the pool. That would mean
9 that you wouldn't do that 100 percent of the time.

10 MS. HUGUELEY: Right.

11 MR. PENNINGTON: Could you estimate what
12 percentage of the time you might do that?

13 MS. HUGUELEY: I guess I am not clear.
14 How we would typically size a pump, and that would
15 include two speeds as well, is we have to size to
16 the maximum load. In other words, if they turn
17 everything on, the solar, the sweep, and
18 everything at one time, that pump has to be able
19 to accommodate.

20 But actually more defining when we size
21 pumps is the size of the plumbing that exists.
22 Many times pool builders oversize their filter
23 pumps. That is why we are so savvy about
24 downsizing. Because we have been doing it for a
25 long time. Because many times they will put too

1 big a pump on too small a plumbing and it
2 cavitates and it is noisy and inefficient. So,
3 you know, as far as statistically giving you an
4 exact number, I don't know but it is a frequent
5 occurrence.

6 Now if I had a two-speed already in
7 existence on a pad, you know, we would probably
8 work with the two-speed, you know, and keep the
9 same system. Because they would already have
10 their timer, they would already have all that.
11 This is more of -- What we were talking about is
12 we have an existing single-speed system that we
13 would, rather than going up to two-speed we would
14 just downsize.

15 MR. PENNINGTON: Right.

16 MS. HUGUELEY: And a three-quarter horse
17 pump on two-inch plumbing will put out, you know,
18 in many cases 75 to 80 gallons a minute in a well-
19 designed system. Which accommodates most, quite a
20 bit of the swimming pool world.

21 MR. PENNINGTON: All right, thank you.

22 MS. HUGUELEY: I had a couple of
23 questions for Leo. On your, I think it's the next
24 graph. On your hours of operation, that is
25 assuming also 4.2 on the low-speed running, is

1 that right? You didn't --

2 MR. RAINER: The analysis is done by
3 assuming that the pool is operating for 4.2 hours
4 on single-speed.

5 MS. HUGUELEY: Right.

6 MR. RAINER: So we estimate how many
7 gallons total per day are turned by a single-speed
8 at 4.2 hours.

9 MS. HUGUELEY: Right.

10 MR. RAINER: And then the two-speed
11 motor operates at high-speed for two hours. That
12 turns a certain number of gallons. Whatever
13 number of gallons is left then has to be operated
14 for the number of hours needed at low speed.

15 MS. HUGUELEY: Okay. It just wasn't on
16 the graph and I just wanted to make sure they
17 understood that it is also running on low speed.

18 MR. RAINER: Right, yes. So it's
19 running at two hours on high --

20 MS. HUGUELEY: To come up to an equal
21 number of gallons.

22 MR. RAINER: -- and then some amount,
23 typically about six hours on low speed.

24 MS. HUGUELEY: And on your suggestion
25 for a default on a variable speed measuring the

1 default speed. How is that going to be defined,
2 the default speed?

3 MR. RAINER: The suggestion, and I
4 understand this is how they have actually listed
5 them so far, is to list the multi-speed or
6 variable speed pumps at their high speed and then
7 at the speed that they have the highest energy
8 factor. Which would be the rate that you would
9 want to operate it at. It is not an easy point to
10 assume because you can't just specify a certain
11 flow rate.

12 MS. HUGUELEY: Because it would be so
13 contingent on what it is installed on.

14 MR. RAINER: Well remember, this is at a
15 -- each of these is at a specific curve.

16 MS. HUGUELEY: Okay.

17 MR. RAINER: So the Curve A, Curve B and
18 Curve C would possibly be at different rates.

19 MS. HUGUELEY: And then will that be
20 defined in what they post with the CEC so that we
21 can look at that and say, oh, 750 RPM or whatever?
22 Will we see that?

23 MR. RAINER: The RPM is now, that is an
24 additional -- in the current language the RPM has
25 been added to the table.

1 MS. HUGUELEY: Okay.

2 MR. RAINER: So you have new RPM.

3 MS. HUGUELEY: It is just not currently
4 on there?

5 MR. FERNSTROM: And if I could add, the
6 flow is also indicated at that operation point.
7 So if you want to know the performance you have
8 got that listed.

9 MS. HUGUELEY: Right. Okay, thank you.

10 MR. RAINER: If there are no further
11 questions I will move on to spas for one slide.

12 ADVISOR RHYNE: Actually Leo I had one
13 additional question. You mentioned the benefit-
14 cost ratio on Slide 9 and then you talked about it
15 again on Slide 10. You happened to mention it.
16 What is the comparison of benefit-cost ratios
17 between the two alternatives there?

18 MR. RAINER: For downsizing your benefit
19 to cost ratio is negative because you are actually
20 -- downsizing is a lower cost. If you are
21 comparing, let's say on a one-and-a-half horse.
22 You have an existing one-and-a-half horse motor
23 and your options are, A, to go to -- your base
24 case is staying at one-and-a-half horse, single
25 speed.

1 Your two options would be, one,
2 downsizing to a three-quarter single-speed or
3 going to a one-and-a-half horse two-speed.
4 Downsizing to the three-quarter actually is a
5 lower cost because you are using a smaller motor.
6 So the benefit to cost doesn't even, you can't
7 calculate it. It is actually a lower cost and you
8 are saving energy. The two-speed costs you on the
9 order of \$400 but saves you, for one horse saves
10 you 600 kilowatt hours a year and has a benefit to
11 cost ratio of about 1.4 for a lot less. And it
12 has a benefit to cost ratio of about two for the
13 one-and-a-half and two horse.

14 PRESIDING MEMBER ROSENFELD: So that's
15 the better investment.

16 MR. RAINER: That's the better
17 investment from a first-cost perspective,
18 obviously, if you downsize. But over the life
19 cycle of the motor the two-speed is a much better
20 investment.

21 PRESIDING MEMBER ROSENFELD: What life
22 cycle did you use?

23 MR. RAINER: Ten years is assumed.

24 PRESIDING MEMBER ROSENFELD: Thanks.

25 MR. RAINER: Anything further?

1 As Betty had mentioned, there are some
2 revisions, clarifications to the test method.
3 PG&E has been working with the APSP continually on
4 revising the test method. They have been testing
5 a number of spas at Cal Poly San Luis Obispo and
6 been reviewing the test method.

7 We are very close to agreement on a
8 number of suggested changes. Specifically some
9 language defining spa volume, exactly. Operation
10 of ancillary equipment, which would include spa
11 sanitary and other devices such as audio and
12 video, which can come with spas.

13 And also normalization of the standby
14 power to a delta-T of 37 degrees for uniform
15 results. Because there are differences in the
16 test method it is difficult to maintain the
17 environment and the spa temperature and so you get
18 different results based on the delta-T. So the
19 proposal is to normalize to a fixed delta-T based
20 on the results of the test. The power and the
21 actual delta-T during the test.

22 We will be reviewing these comments with
23 APSP and submitting them before the deadline and
24 we expect that APSP will submit a memo supporting
25 that.

1 PRESIDING MEMBER ROSENFELD: Thank you.

2 MR. RAINER: And that concludes my
3 remarks. Any questions?

4 PRESIDING MEMBER ROSENFELD: Do we have
5 questions or comments on spas? I guess not.

6 MS. MERRITT: I believe we have blue
7 cards from Bob Nichols representing the
8 Independent Pool and Spa Service Association and
9 at least two other industry representatives
10 wanting to make comments.

11 PRESIDING MEMBER ROSENFELD: I have Bob
12 Nichols, Celia Hugueley again and Mike Gardner.

13 MR. NICHOLS: Good morning. My name is
14 Bob Nichols. I am the IPSSA director of Region
15 Three, which is the Northern Los Angeles Area. I
16 am also the Chairman of the IPSSA Outreach
17 Committee and the IPSSA Government Relations
18 Committee. I am here to speak on behalf of IPSSA
19 and its support of the IPSSA public comment
20 submitted on September 2. And I bring with me the
21 full support of the IPSSA Board of Regional
22 Directors.

23 The Independent Pool and Spa Service
24 Association was organized 20 years ago this year
25 by service technicians in California and has grown

1 to 3800 members with 88 chapters covering
2 California, Arizona, Nevada, Texas and Florida.
3 Organized in ten regions with each region having a
4 Director on the IPSSA Board of Regional Directors,
5 the governing body of IPSSA. IPSSA leadership and
6 committee participation is completely voluntary.
7 No one gets paid for anything.

8 Members that have contributed to this
9 project are members that are concerned about
10 energy savings and consumer satisfaction. They
11 understand that if we are to individually succeed
12 in the competitive market we must have the tools
13 to provide the consumer with choices to make a
14 well-informed decision based on their individual
15 needs and financial abilities in regards to energy
16 savings, and provide a selection of high-quality
17 products that provide predictable results and
18 reasonable service life.

19 Many of our association members have led
20 the way in the installation and use of energy-
21 saving products that have been introduced in the
22 last few years. Energy-saving products in our
23 industry are only now in their first issue, with
24 many manufacturers falling behind in design and
25 production of new, affordable, energy-saving

1 technology. This lends itself to an inadequate
2 selection of consumer products and a narrow
3 pricing corridor available to the consumer.

4 We have therefore taken the position
5 that until a manufacturing technology achieves the
6 goals intended by the Title 20 requirements we
7 need to be able to provide the consumer with the
8 option of using three-quarter horse nameplate,
9 full-rated, high-performance pumps and replacement
10 motors as an option in their effort to save energy
11 and reduce their individual energy costs.

12 Within our comments, the ones submitted
13 on September 2, we compare a three-quarter
14 horsepower, dual-speed pump with a single-speed
15 pump under normal nameplate parameters and prove
16 that the single speed pump conserves more energy
17 than the dual-speed pump. And there has been no
18 argument presented to date that proves otherwise.
19 Maybe a little bit a couple of minutes ago.

20 (Laughter)

21 MR. NICHOLS: Basically we are still in
22 the ballpark. As Leo said, we met with PG&E and
23 Leo and have agreed that there's a -- we have
24 agreed that there is a limit to what can be done
25 with the current technology. However, we have not

1 been able to bilaterally determine the exact level
2 of where that limit should be established. Based
3 on the calculations in our public comment, page
4 six, we have proven the limit to be the three-
5 quarter horse, full-rated, single-speed pump and
6 replacement motor.

7 Should the legal descriptions and
8 definitions presented in the proposed language
9 changes be adopted, this particular pump and
10 replacement motor will no longer be available to
11 our industry as an option to the consumer for
12 saving energy at a cost that is reasonable and
13 benefit the cost-efficient.

14 We urge a review of the mitigating
15 circumstances now available that were not
16 previously considered.

17 Leo had touched base on what an upgraded
18 pump was. I brought with me a little bit of a
19 demonstration. I have two impellers. If you'd
20 like I can bring them up there.

21 PRESIDING MEMBER ROSENFELD: We
22 certainly can't see much from here.

23 MR. NICHOLS: I hear that. It's okay?
24 May I approach? Is that the words?

25 (Laughter)

1 MR. NICHOLS: Those impellers are the
2 business end of the pump. You have before you two
3 impellers. One is a half-horsepower full-rated
4 that also doubles as a three-quarter horsepower
5 up-rated. And the other is a three-quarter
6 horsepower full-rated that doubles as a one
7 horsepower up-rated. Is anybody else confused?

8 (Laughter)

9 PRESIDING MEMBER ROSENFELD: And they
10 look the same to me.

11 MR. NICHOLS: They have been marked by
12 the manufacturer with a specific part number. I
13 have the packaging they came in and also a parts
14 list if you want to check me out on that one.

15 The difference between those two
16 impellers is about nine cubic centimeters in total
17 impeller vane area. Approximately the volume of
18 an average grape. This volume measurement is the
19 only difference between a compliant single-speed,
20 half-horsepower pump and a three-quarter
21 horsepower non-compliant single speed pump should
22 the proposed language definitions be adopted.

23 The OEM nameplate energy usage capacity
24 of the motors used to drive these impellers is
25 only reduced in service factor by the impeller

1 horsepower multiplier. The motor's nameplate
2 energy usage is exactly the same. You will find
3 this to be predominant throughout the pump
4 manufacturers' labeling on full-rated and up-rated
5 pumps.

6 In the initial rulemaking process one
7 horsepower was the threshold of regulation. Our
8 entire industry has worked with nameplate
9 nomenclature for product description long before
10 the inception of Title 20, and interpreted the
11 existing language to refer to the same
12 description.

13 We have offered evidence to this fact
14 within our public comment. To not return to the
15 existing language and change the definitions to
16 include three-quarter horsepower nameplate pump
17 and replacement motor in an attempt to increase
18 the scope of the existing language will increase
19 energy usage rather than conserve energy and
20 provide absolutely no benefit to cost advantage to
21 the consumer. This proven fact must be considered
22 in the Commission's decision-making process.

23 I have been asked by a couple of people
24 why we continue to argue the point for the full-
25 rated pump, three-quarter horsepower that is

1 normally rated 1.25 total horsepower. There are
2 labeled three-quarter horse pumps and you have the
3 impellers right there in the market that are rated
4 less than one total horsepower.

5 These pumps are classified as up-rated
6 pumps. And in the category of three-quarter horse
7 they are one-half horsepower motors with the same
8 impeller. The smaller impeller that you have
9 there is a one-half horsepower full-rated or a
10 three-quarter up-rated. It's the same impeller,
11 same motor, no savings, nothing but extra usage.

12 Let's see, I lost my -- I got emotional
13 there for a minute, excuse me.

14 The confusion exists only for the
15 consumer. Professionals know that these pumps are
16 actually only a one-half horsepower pump and motor
17 combination and they do not compare in performance
18 with full-rated pumps. The consumer expects from
19 our membership a high quality product that has a
20 predictable service life and will perform on an
21 energy efficient basis. The full-rated three-
22 quarter horsepower energy efficient pump and
23 replacement motor is the quality product we must
24 continue to provide to our customers.

25 In regards to public awareness. In our

1 research of the California Energy Providers Rebate
2 and Incentive Programs we find there is no
3 reference to the fact that Title 20 is law and
4 regulates what products are to be sold in
5 California. They all imply that it is a good idea
6 to save energy and therefore the consumer has a
7 choice to purchase energy-saving products or not
8 to purchase them.

9 This lack of support in educating the
10 consumer makes it difficult for the industry to
11 provide energy-saving products and remain
12 compliant and competitive. The lack of knowledge
13 of the requirements of Title 20 within the
14 consumer market lends itself to non-compliant
15 products being sold and installed by the ever-
16 increasing black market of uncertified and
17 unlicensed contractors. We desperately need the
18 help of the energy providers in educating the
19 consumer that the requirements of Title 20 are not
20 just a good idea but they are a requirement of law
21 that must be complied with.

22 In regards to safety. Within our public
23 comment there is a reference by -- I am going to
24 low this name, okay. Shajee Siddiqui of the Jandy
25 Zodiac Corporation. Indicating concern on

1 replacement motors nullifying the UL listing of
2 pump motor combinations when a replacement motor
3 is installed other than how the original pump was
4 designed and certified. This issue has not been
5 truly investigated nor have there been guidelines
6 provided by manufacturers of replacement motors.

7 The service industry cannot provide
8 these guidelines. They must be clearly presented
9 by the pump and motor manufacturers. Due to the
10 lack of guidelines, our position when we met with
11 the Commission staff was that all pumps and motors
12 produced prior to January 1, 2008 should be exempt
13 from Title 20 regulation.

14 By now proposing to remove the three-
15 quarter horsepower nameplate single-speed pump and
16 replacement motor from our options for downsizing
17 to energy saving levels on existing pool systems.
18 We feel the proposed language, if adopted, will,
19 as we have shown, increase energy usage and
20 consumer cost on an ever-increasing basis.

21 In closing my comment: We urge the
22 Commission to consider the reality of our
23 calculations and find a way to return the legality
24 of definitions to the benefit of the energy
25 consumer by allowing the nameplate three-quarter

1 horsepower pump and replacement motor to be
2 compliant with the regulations of Title 20.

3 Many of our members, including myself,
4 are confident that the producers of pumps and
5 replacement motors will provide the service
6 industry with the energy saving technology that
7 will eventually exceed all of our expectations.
8 But that time has yet to arrive in a fashion that
9 is financially available to the majority of the
10 consumer market.

11 Technology and manufacturing must do
12 more to provide the service industry with high
13 quality, safe and more affordable energy-saving
14 equipment. Items such as lower horsepower
15 variable-speed or variable-flow pumps with lock-
16 out PIN codes and simplified control systems need
17 to be on the market as soon as possible.

18 Until this is accomplished the nameplate
19 three-quarter horsepower 1.25 total horsepower
20 full-rated pump and replacement motor is a proven
21 method of satisfying consumer needs and reducing
22 consumer energy costs.

23 Additionally, we would urge the CEC to
24 arrange a conference of manufacturers, wholesale
25 suppliers, energy providers and the service

1 industry soon after the adoption of the proposed
2 2008 language and provide the entire industry an
3 opportunity to clear any confusion and become one
4 body, assisting the state of California and the
5 Commission in our joint effort to conserve energy
6 and reduce consumer costs.

7 I want to thank you for your time today.
8 And we trust that the Commission will review and
9 consider our comments and bring about a decision
10 that is beneficial to the state of California and
11 the consumers that support our industry. Thank
12 you.

13 PRESIDING MEMBER ROSENFELD: I am, as
14 usually, confused.

15 MR. NICHOLS: May I have the impellers
16 back? Or I have to pay for them when I get home.

17 (Laughter)

18 PRESIDING MEMBER ROSENFELD: Let me ask
19 the staff. When is the effective date for the --

20 MR. NICHOLS: My understanding is
21 January 1, 2010. Is that still correct?

22 PRESIDING MEMBER ROSENFELD: What I am
23 confused about is whether your calculations are
24 long-term calculations or whether you are saying
25 there is a shortage of products and you need a

1 delay in the effective date.

2 MR. NICHOLS: There is a shortage of
3 product. There is one major manufacturer that
4 has --

5 MR. PENNINGTON: Sir, you need to speak
6 into the mic so it gets recorded for the
7 transcript.

8 MR. NICHOLS: I had to move up so I
9 could hear him.

10 There is a shortage of product. One
11 major manufacturer, namely Pentair, has dual-
12 speed, three-quarter horse pumps that are
13 available. They are compared in our, in our
14 comment, and the single-speed still outperforms
15 that both in water movement and energy usage.

16 Aqua-Flo has one dual-speed three-
17 quarter. And a company by the name of Spec that
18 none of us have ever heard of. So the product on
19 two-speed, three-quarters is low, it is almost
20 non-existent.

21 PRESIDING MEMBER ROSENFELD: Again, I am
22 unclear as to whether you are appealing for simply
23 a delay until more product is available or you are
24 opposed to the whole regulation.

25 MR. NICHOLS: Basically my comment is

1 that the three-quarter horse, full-rated pump and
2 replacement motor is an extremely efficient,
3 energy saver that could be used for downsizing
4 from one horsepower, one-and-a-half horsepower.
5 And in some older bronze pumps the three-quarter
6 will replace that two horsepower bronze pump
7 easily, if I heard your question properly.

8 PRESIDING MEMBER ROSENFELD: I guess I
9 am going to say to you to stay for Leo Rainer to
10 -- Leo, as I remember you showed a pretty
11 convincing slide with blue lines and -- blue bars,
12 I'm sorry. The yellow bars and the blue bars.

13 MR. RAINER: Our analysis shows that
14 three-quarter single-speed do not save as much
15 energy as two-speed. You do save energy
16 downsizing to three-quarter.

17 PRESIDING MEMBER ROSENFELD: Yes.

18 MR. RAINER: But you save more energy
19 going to two-speed.

20 PRESIDING MEMBER ROSENFELD: So we just
21 have a direct contradiction between you.

22 MR. RAINER: Yes.

23 PRESIDING MEMBER ROSENFELD: You two
24 folks. How are we going to -- We are going to
25 take Bob Nichols' comments and have lots of

1 huddled discussions off-line?

2 MR. RAINER: In addition we would say
3 that the three-quarter two-speed does save energy.
4 We would say it is marginally cost-effective but
5 it definitely saves a significant amount of
6 energy. And that the cost effectiveness we expect
7 will rise due to -- Three-quarter, as we have
8 seen, is a small amount of product, meaning the
9 cost is high right now but we expect the cost to
10 drop.

11 MR. GARDNER: Costs to drop?

12 MS. HUGUELEY: Costs don't drop.

13 MR. RAINER: The demand will rise.

14 MR. GARDNER: It doesn't matter. Costs
15 don't drop, Leo.

16 PRESIDING MEMBER ROSENFELD: But your
17 figures are based on present costs.

18 MR. RAINER: Yes, all the figures are
19 based on present costs.

20 PRESIDING MEMBER ROSENFELD: I guess we
21 should go on to Ann (sic) Hugueley. Are you next?
22 You were next, Ann?

23 MS. HUGUELEY: Again, this is Celia
24 Hugueley from Oasis Pool Service and IPSSA.

25 PRESIDING MEMBER ROSENFELD: I stand

1 corrected. I'll try to say Hugueley from now on.

2 MS. HUGUELEY: Celia works. People have
3 enough trouble with that. And forgive me for
4 reading my comments but I don't want to miss any
5 of my really compelling points.

6 I am a member of the IPSSA committee
7 studying the two-speed pump. And I want to thank
8 you for allowing me to speak to you again on the
9 issue of swimming pool replacement motors and
10 pumps.

11 After the hearing, your hearing in May,
12 it became clear to us in IPSSA that there was a
13 need to verify some of the assumptions put forth
14 by PG&E regarding the energy savings and
15 applicability of two-speed motor replacements

16 As you might guess, the summer months
17 are quite busy or folks in the pool business. But
18 we got busy reading the studies that were used to
19 support PG&E's statewide energy savings numbers as
20 well as the CEC pump data, Davis Energy system
21 curves, Leo and Excel and the mountains of other
22 resource materials I won't bore you with.

23 My husband Mike and I were charged with
24 the task of actually collecting the IPSSA
25 statewide as well as individual swimming pool

1 data, a process not yet complete.

2 We have thus far gathered very complete
3 data on 50 of our 150 pools on service. It is a
4 fairly technical process that require knowledge of
5 meter types, labeling variations, pump and other
6 equipment characteristics as well as the various
7 definitions of horsepower and watt.

8 And then Gary threw in power factor,
9 which is a big topic today, and we had to redo all
10 of our measurements again with a watt meter to get
11 the power factor included. And that is the
12 discrepancy between what we submitted in
13 September, the data that Leo was referring to. We
14 have now gone back and remeasured all of those
15 pools with a watt meter. Suffice to say we have
16 learned lots and lots about watts.

17 Throughout the summer we met with your
18 staff, Gary Fernstrom and Leo Rainer, as well as
19 consulted with many industry electrical experts.
20 In our meetings and many other e-mails over the
21 summer with PG&E and DEG we worked to make them
22 understand that their initial numbers on energy
23 savings based on 100 percent low-speed pumping on
24 100 percent of the pools would not really work.
25 We have continuously shared our data as it was

1 collected and even when it did not necessarily
2 promote our argument, but with the purpose of
3 collecting better, more accurate information.
4 with their help we did so.

5 From their presentation it seems that we
6 have had some impact. They seem to now
7 acknowledge that most existing pools cannot run on
8 low-speed only and are using the compromise figure
9 of two hours of high-speed running. We are now
10 down to a he said, she said, best guess on whether
11 chlorinators can work and how well. How deep the
12 low speed will be able to penetrate a sand bed,
13 and how many months folks run their solar.

14 We checked and could find no published
15 reports from manufacturers with this data. We
16 based our assumptions on how well these devices
17 perform when filters are dirty. The low speed has
18 an even lower flow than the worst of dirty filter
19 situations.

20 Manufacturers through APSP and our
21 direct -- Manufacturers through -- forgive me, I'm
22 nervous. Manufacturers through APSP are happy to
23 tell PG&E anything that will help them enact this
24 regulation. Our pool building bubble has burst in
25 a huge way. Replacement equipment is their whole

1 market right now and this regulation guarantees
2 high-cost replacement equipment will be installed.

3 IPSSA is the only group that represents
4 our customers. And while replacing equipment is
5 also in our best financial interest, we make more
6 money doing it, we have to return to those pools
7 week after week and defend what we have
8 recommended.

9 What still remains unanswered is whether
10 low-velocity pumping will mix the water adequately
11 enough to distribute the chlorine and other
12 chemicals and filter the whole pool. The
13 established pool filtering turnover rates are
14 based on high velocity pumping. No one has yet
15 studies whether we get the same proportional
16 effects at low speed or how much extra time might
17 be needed to equal the high velocity pumping of a
18 single or high-speed pump at low speed.

19 PG&E uses a direct gallon to gallon
20 equivalency that is counter-intuitive and
21 completely unproven and undocumented. Obviously
22 what we are trying to do, what they are trying to
23 do is make a clear case for energy savings where
24 such clarity does not yet exist. Pools are as
25 varied as the yards they inhabit and can never be

1 neatly pushed into a predictable box, which Gary
2 referred to earlier as well.

3 With all of our study and field research
4 the most glaring reality is that our data is
5 woefully inadequate. Also woefully inadequate is
6 the data provided by PG&E. The studies used to
7 support PG&E's statewide numbers are extremely
8 weak. They are a patchwork quilt with a few
9 threads to tie them together. They are out of
10 date and the very minimal field data was
11 imprecise. Most noteworthy is there is no
12 information on two-speed pumps.

13 Our data too is flawed because we as a
14 company are rigorous in our energy conservation
15 measures and demand full control of the time
16 clocks. We have our preferences as to pumps and
17 filters and it shows in the data. Worst of all,
18 we have only four two-speed pumps on our route,
19 all installed this year. Way too few examples for
20 too short a period of time to draw any meaningful
21 conclusions as to run times or operational
22 idiosyncracies.

23 We contacted Bill Storm who testified at
24 the May hearing, another IPSSA member, who has
25 installed two-speed pumps. But he kept no data on

1 his pools and is no longer servicing them to
2 follow up for us to get that data.

3 But I have a solution. PG&E has at its
4 disposal a significant database of two-speed and
5 downsized pools from their rebate program.
6 Please, before you approve any further expansion
7 of this regulation by including replacement motors
8 require PG&E to perform a comprehensive field
9 study of their two-speed participants and then
10 compare them with an equal number of rebate
11 participants that were paid to downsize to three-
12 quarter, now called the 1.25 total.

13 Let the people who have already
14 installed their two-speeds, some in for several
15 years now, show us definitively how long they
16 actually run their high speed and whether their
17 sand filters still work. Let's stop all the
18 guessing and back and forth. Let's stop the hype
19 and overstatement.

20 If raw energy engineering and laws of
21 physics were always perfectly predictable NASA
22 would never have needed to launch those chimps
23 into space and John Glenn would have been put into
24 orbit years before Sputnik. Please, do not make
25 my customers pay for beta testing the application

1 of pump affinity laws on their existing pool
2 systems. Let's scientifically measure and analyze
3 those already installed. Let's create independent
4 verification of PG&E's assumptions.

5 If money for such research is lacking I
6 think I can speak for IPSSA in saying that we
7 would be happy to participate voluntarily in a
8 joint effort to create real, comprehensive,
9 accurate and useful data. Let's see if they are
10 saving energy and give us something other than
11 undocumented assumptions to support the
12 installation of this equipment.

13 Thank you. Does anybody have any
14 questions?

15 PRESIDING MEMBER ROSENFELD: Gary
16 Fernstrom, it sounds as if you may want to make
17 some comments.

18 MR. FERNSTROM: Thank you, Commissioner,
19 I have no comment.

20 ASSOCIATE MEMBER PFANNENSTIEL: But
21 Gary, let's go to the question, I think, that is
22 on the table. She pointed out that the data PG&E
23 could have, should have, on the two-speed pumps
24 available through the --

25 PRESIDING MEMBER ROSENFELD: Rebate.

1 ASSOCIATE MEMBER PFANNENSTIEL: -- the
2 rebate program could be useful in this regard. Do
3 you have the data? Has it been used? What does
4 it show?

5 MR. FERNSTROM: We don't have the data.
6 It hasn't been used and consequently it is not
7 showing anything. Let me elaborate a little bit
8 on that. We don't have end-use specific
9 measurement data really for any of our customers.
10 The best data we have is the monthly energy use
11 maybe improved a little bit for those customers
12 that now have smart meters where we have load
13 profile information. But we don't have
14 information at the pool pump level.

15 We could go out to those customers where
16 we know two-speed conversion has taken place and
17 we could determine the operating hours. We could
18 measure the energy use. But that would not
19 necessarily give us an indication of the energy
20 that was previously used by the pump and motor
21 that has been removed and replaced with the new
22 two-speed equipment.

23 PRESIDING MEMBER ROSENFELD: You can
24 only compare with a theoretical baseload.

25 MR. FERNSTROM: That's right. And we

1 have, in fact, done our energy saving estimates
2 quite carefully based on the market
3 characterization information that we do have and
4 we filed it with the California Public Utilities
5 Commission. And so far as I know it has been
6 accepted and reflected in the Database of Energy
7 Efficient Resources, I believe it is.

8 PRESIDING MEMBER ROSENFELD: DEER.

9 MR. FERNSTROM: The DEER database. So I
10 am not aware of any other efficiency standard
11 proceeding in which we have been asked to do
12 anything more than we have already done in this
13 case.

14 PRESIDING MEMBER ROSENFELD: Celia, let
15 me ask you a question. You were asking about
16 data. Did I misunderstand you that you said you
17 had looked at something like 250 pools but only
18 four of them had two-speed motors?

19 MS. HUGUELEY: Our company services 150
20 pools.

21 PRESIDING MEMBER ROSENFELD: One hundred
22 and fifty, okay.

23 MS. HUGUELEY: And we only have four
24 two-speeds, you know, within our route. Because
25 we have primarily downsized over the years and

1 only replace things as they wear out. And so this
2 year there's been four installed, two three-
3 quarters and two horse-and-a-half two-speeds. So
4 that is all we have available to us as far as a
5 database of two-speed.

6 And I am, you know, really strict with
7 my customers. I totally control their time clocks
8 and their programming. I mean, they kind of have
9 to agree to that. So I keep track, very close
10 track and keep their pools running optimally.

11 Our question is whether that's a fair
12 comparison. You know, when we came up with the
13 numbers of how long a high speed is running and
14 how long low speed is running on these two-speeds
15 outside of my control. So in other words the
16 hundreds and hundreds of two-speeds that are not
17 in Oasis Pool Service's route, how long. You
18 know, it just seemed to me that PG&E has a list of
19 these people that have put them on for years now.
20 How long Gary has there been a rebate program?

21 MR. FERNSTROM: Probably six years now,
22 Celia.

23 MS. HUGUELEY: Yes, so we have six years
24 of data we could collect. It could totally
25 disprove our concerns about sand filters or

1 chlorinators and how long they are running low-
2 speed. Because in this process this summer,
3 anecdotally, you know, we are talking to a lot of
4 people who they basically run their low speed like
5 24. The pump is running all the time.

6 And in fact some of these controllers,
7 the older controllers that are not compliant now
8 but were previously installed, the default is low
9 speed and that's it. So they run high speed for a
10 certain number of hours and then it's running on
11 low speed the rest of the time. So I just think
12 it would be really nice to have real accurate
13 information as far as what people do when they
14 have their two speeds under their control.

15 PRESIDING MEMBER ROSENFELD: So let me
16 see if I understand your basic concern. Leo
17 Rainer talked about two hours a day of high speed.
18 And what you are saying, what you are guessing is
19 that if one looks at the way real world, rebated,
20 two-speed pools run, that it will be more than two
21 hours.

22 MS. HUGUELEY: The two hours is what we
23 have used on our two-speeds. It is what I
24 consider to be a minimum. And I know Leo
25 considers a lower number to be a minimum but that

1 is what we operate ours at. I believe that other
2 people might not be as conscientious. I don't
3 know. How many hours do you run yours?

4 MR. STAACK: About two. One-and-a-half
5 to two.

6 MS. HUGUELEY: And how long do you run
7 your low speed?

8 MR. STAACK: About four-and-a-half.

9 MS. HUGUELEY: So he is in line with
10 somebody, of course he works at the Energy
11 Commission, presumably he is pretty savvy. But he
12 has got a two horse two-speed, is that right?

13 MR. STAACK: Yes. And I also use it at
14 the low speed.

15 PRESIDING MEMBER ROSENFELD: Closer to
16 the mic, Bill. The nearest one right in front of
17 you.

18 MR. STAACK: At the low speed I am
19 capable of operating my little monster machine
20 that I call it, to vacuum during the day.

21 MS. HUGUELEY: You've got a
22 Poolvergnuegen?

23 MR. STAACK: Yes.

24 MS. HUGUELEY: And he has the highest
25 horsepower two-speed. Now we are talking about

1 three-quarter. I mean, the discussion pretty much
2 -- We have given PG&E, even though we kind of
3 wonder operationally whether in the real world any
4 of these two-speeds are actually saving energy in
5 how they are operated by consumers that are less
6 educated, and pool guys that are less educated for
7 that matter.

8 But our argument is over the three-
9 quarter because we know, you know, that's the
10 threshold where it puts out plenty of water and is
11 simple and clean and clear. I mean, the
12 controllers that control these -- And currently we
13 are hoping for some change. But the controllers
14 are hard sometimes to even figure out how long
15 people's pumps are actually running without
16 scrolling through lots of programs.

17 PRESIDING MEMBER ROSENFELD: Okay, I'm
18 looking at the clock and it says 12:15 and we all
19 want our lunch break. I am thinking that maybe
20 you and Gary and Leo Rainer and anybody else who
21 is interested could huddle for a few minutes off-
22 line in a few minutes.

23 Gary, you had your hand up.

24 MR. FERNSTROM: I just wanted to make
25 one real quick comment. We have already done a

1 lot of huddling. The other comment is we are
2 comparing the experience of one very conscientious
3 pool service firm, plus the experience of other
4 conscientious firms that IPSSA has chosen to
5 survey against one-and-a-half million pools in
6 California. Our information shows that about two-
7 thirds of pools are maintained by the owners
8 themselves, not by pool maintenance contractors.

9 PRESIDING MEMBER ROSENFELD: What
10 fraction again, Gary?

11 MS. HUGUELEY: Two-thirds?

12 MR. FERNSTROM: Two-thirds are
13 maintained by pool owners themselves, not pool
14 maintenance contractors. When it comes to data
15 the RASS data shows that unit energy consumption,
16 which can be translated into hours of operation.
17 We have the ADM study, admittedly of 2001 which
18 was quite some time ago, which surveyed the pool
19 owners to determine hours of operation.

20 MR. GARDNER: How many?

21 MR. FERNSTROM: And claims that they had
22 a statistically significant result.

23 I heard a question in the background,
24 how many. I don't remember exactly but I believe
25 it was in the order of 4.2 hours of operation

1 daily for pool filtration pumps.

2 MR. GARDNER: That was how many pools?

3 MR. FERNSTROM: How many pools? All I
4 know is that ADM argued that their results were
5 statistically significant and expressed a
6 confidence interval around it.

7 In addition to that we hired Opinion
8 Dynamics to survey for us the start and stop time
9 of a random selection of pool owners by telephone
10 and we have that data similarly coming up with
11 something in the order of 4.2 hours. This subject
12 has been studied a lot. We are not here without
13 confidence in our recommendations.

14 PRESIDING MEMBER ROSENFELD: We do have
15 one other blue card, Mike Gardner. Thank you,
16 Celia.

17 MR. GARDNER: I'm Mike Gardner. I'm
18 with IPSSA, I'm with Mike Gardner Pools and I am
19 married to her. It's always hard going after her
20 because she covers so much ground.

21 As regards to this last comment about
22 their surveying single-speed pump owners and not
23 two-speed pump owners. And what we are finding
24 is, even within the pool professional community
25 there is some fear that by going to a two-speed,

1 and only running maybe two hours or three hours of
2 high-speed it is not going to be enough to run
3 only four or five hours. So they tend to want to
4 err on the other side.

5 Because honestly, a green pool is hard
6 to recover. When you don't run a pool enough,
7 when it doesn't get enough chlorine because the
8 chlorinator optimally or minimally goes with 20
9 gallons. We have a hard time sometimes at 60
10 gallons a minute getting that chlorinator to feed
11 enough chlorine to keep the pool clear and clean.
12 So there's a fear. And they buy into that fear
13 and so they start running them more hours.

14 Which is why we are asking for the
15 three-quarter horsepower. While it may not be the
16 perfect answer. Clearly Gary will admit that he
17 thinks that the variable-speed is the perfect
18 answer but they didn't want to legislate that. So
19 they are taking a little bit lesser view. I'm
20 saying a little bit lesser view than that, only
21 slightly. But a three-quarter horsepower single-
22 speed pump or motor, replacement motor.

23 Because it will be effective for a large
24 number of pools but not -- I don't think even 50
25 percent. If you've got a spa with six jets it

1 probably won't work. If you've got solar it's too
2 far away or you've got multiple skimmers that are
3 too far away. It may not be the right call. But
4 that's what we are asking for.

5 I have been doing this 29 years. And I
6 can look at a pool and know that it is going to
7 need only so much pump. And we have always
8 focused on minimizing the amount of energy
9 consumed so that our customer doesn't have to pay
10 for it. And they do appreciate it when it
11 happens. They recognize it. Because we always
12 hear it. They come out to us with the bill, did
13 you see how much money the bill was this month.

14 And, you know, it's hard. So that's
15 been a focus forever with -- Let me find my
16 comments. There is a great need for empirical
17 data so that we do understand how people are using
18 them. I have looked at the ADM study as well and
19 it is not a very large number of pools that they
20 attacked. The pools that are being built these
21 days are quite a bit smaller than what they were
22 even back then. In fact, if pools are being built
23 at all given the economy.

24 I know we're running short on time.
25 I'll just leave it at we really are asking for the

1 three-quarter, single-speed, full-rated, 1.25
2 total horsepower to be included as a tool. Not as
3 the go-to but as a tool. We are also offering the
4 education of all of our members through --

5 PRESIDING MEMBER ROSENFELD: I'm sorry,
6 I didn't understand that language. As a tool and
7 not as a go-to?

8 MR. GARDNER: Not as a mandatory thing.
9 Not as something that we would always encourage
10 but as a tool that will give us something to go to
11 for a particular pool but not as a standard. If
12 we run into a backyard that needs a horse-and-a-
13 half pump, absolutely we are encouraging them and
14 in favor of the two-speed. We do support what you
15 have been doing and what has been going on.
16 Because it does save energy at that level.

17 But if we can get down to a three-
18 quarter horse from a one horse, a horse-and-a-half
19 or a two-horse, we will have saved an awful lot of
20 energy right there just by dropping to three-
21 quarter rather than staying at the same horsepower
22 at two-speed.

23 PRESIDING MEMBER ROSENFELD: Gary
24 doesn't dispute that. It's the further economic
25 savings that I'm concerned with. Okay.

1 AFTERNOON SESSION

2 PRESIDING MEMBER ROSENFELD: This
3 afternoon is metal halide luminaires and I guess
4 Gary Flamm is going to illuminate us.

5 (Laughter)

6 MR. FLAMM: Thank you. My name is Gary
7 Flamm, Energy Commission staff. I guess I need to
8 do the lights here.

9 The Energy Commission first started
10 looking at metal halide luminaires, I guess around
11 2003 we got some proposals from PG&E and ACEEE.
12 And so we adopted energy standards for metal
13 halide luminaires 150 to 500 watts in 2004.

14 And there were two tiers. One tier
15 became effective in 2006 and the second tier
16 became effective January 1, 2008. Basically it
17 prohibits the use of probe-start lamps and
18 requires ballasts at least 88 percent efficient.

19 Recently the EISA 2007 established
20 federal standards for metal halide luminaires that
21 become effective January 1, 2009. It allows some
22 use of probe-start lamps and requires ballast-
23 efficiencies between 88 to 94 percent, depending
24 on the application. And it allows California to
25 adopt revised standards by December 31, 2011.

1 So for this round PG&E presented a
2 proposal, a case study. It was a PG&E/ACEEE
3 combined proposal. Which was last modified April
4 3 and that's the version we have been looking at.

5 And it proposes revising the current
6 Title 20 regulations that the ballast efficiency
7 would go up to around 90, 92 percent, which is
8 equivalent to an electronic ballast or a very
9 superior magnetic ballast.

10 And it is very important because the
11 energy savings was going to help us meet the 1109
12 indoor commercial and outdoor lighting standards.
13 For those who are not familiar, by 2018 we need to
14 reduce commercial lighting by 25 percent and we
15 need to reduce outdoor lighting by 25 percent.

16 The proposal in these standards, these
17 regulations, in addition to the minimum ballast
18 efficiencies there is a alternate compliance path
19 that we look at as off ramp to the efficient
20 ballast. And one of those off ramps is integral
21 controls that are integrated into the luminaire.
22 And we have a definition of what that means for
23 indoor or outdoor luminaires. Or another
24 compliance path through non-conventional wattage
25 lamps.

1 So here is the proposed language. Metal
2 halide luminaires rated 150 to 500 watts,
3 manufactured on or after January 1, 2010, shall
4 not have probe-start ballasts, and shall comply
5 with either Path A or B.

6 A is for smaller wattage lamps, 90
7 percent efficient ballasts. And for larger
8 wattage lamps, 92 percent efficient ballasts.

9 Or Option B. There's three options,
10 sub-options. Which is an integral occupant
11 sensor, as defined; an integral automatic daylight
12 control, as defined; or unconventional wattage,
13 which has a sunset date of December 31, 2013.

14 There are exceptions that are very
15 similar to the exceptions that are currently on
16 the books for California. The exceptions to the
17 ballast efficiencies are if it is a regulated lag
18 ballast; an electronic ballast operating at 480
19 volts; or a ballast that meets all three of the
20 following: rated only for 150 watt lamps, for wet
21 locations, and for hot locations as specified.

22 The estimates from the latest study have
23 an incremental cost for this improvement of \$75
24 per luminaire and expected to save \$200 over the
25 life so the proposed standard is cost-effective.

1 And the annual statewide energy use is expected to
2 be 4,010 million kilowatt hours as of 2008.

3 And that's the end of my presentation.

4 PRESIDING MEMBER ROSENFELD: Gary, I
5 don't understand what it means to say, as of 2008.

6 MR. FLAMM: I'm sorry, Bill (sic), I
7 didn't understand you.

8 PRESIDING MEMBER ROSENFELD: I don't
9 understand.

10 MR. FLAMM: Oh, that was Commissioner --

11 PRESIDING MEMBER ROSENFELD: Two billion
12 kilowatt hours as of 2008.

13 ADVISOR TUTT: On your last slide there.

14 PRESIDING MEMBER ROSENFELD: At the very
15 bottom. I just don't understand what the as of
16 2008 means.

17 MR. FLAMM: I think that's looking at
18 the first year energy savings. You know, based
19 upon the energy.

20 PRESIDING MEMBER ROSENFELD: Oh boy.

21 ADVISOR TUTT: That sounds like savings,
22 maybe not use.

23 MR. SINGH: It's the energy use.

24 MR. FLAMM: Oh, the energy use.

25 ADVISOR TUTT: In that year?

1 MR. FLAMM: Okay.

2 PRESIDING MEMBER ROSENFELD: Oh, it's
3 not savings at all. I just can't read it.

4 MR. FLAMM: Okay, it's energy use.

5 PRESIDING MEMBER ROSENFELD: I'm sorry.

6 MR. FLAMM: I apologize, I misread that.

7 ADVISOR TUTT: So that's the energy use
8 for all outdoor lighting or all metal halide
9 lighting or how do you know that number?

10 MR. SINGH: It's all metal halide
11 lighting.

12 PRESIDING MEMBER ROSENFELD: It's all
13 what, Harinder?

14 MR. SINGH: It's all metal halide
15 lighting energy use.

16 PRESIDING MEMBER ROSENFELD: Okay. It's
17 two percent of state power, it's big. Okay.

18 MR. FLAMM: Okay. Any questions on my
19 presentation? If not I believe we are going to
20 move to the PG&E team that is going to make a
21 presentation. And Steve Nadel, are you on line?

22 Okay, your counterpart is not on line.
23 So perhaps Amanda can come up and you can start
24 your presentation while Ted hunts Steve down.

25 MR. RIDER: I'm sorry, he is on the

1 line.

2 MR. FLAMM: He is on the line?

3 MR. RIDER: Yes. Do you want me to
4 patch him through? Okay.

5 MR. NADEL: Can you hear me?

6 PRESIDING MEMBER ROSENFELD: Yes, Steve,
7 good afternoon.

8 MR. FLAMM: We can hear you.

9 MR. NADEL: Good afternoon. I kept on
10 hearing people saying, I don't know where Steve
11 is. I kept trying to talk more loudly. Is this
12 volume about right?

13 PRESIDING MEMBER ROSENFELD: Yes, you
14 are fine, Steve.

15 MR. NADEL: Okay, very good. Well, I
16 appreciate the opportunity to talk here now. I am
17 trying to save a little bit of energy by not
18 flying out round trip for basically this roughly
19 one hour session. Hopefully we can do this via
20 conference phone.

21 On behalf of the PG&E team we are happy
22 to support just about all aspects of this proposed
23 standard. As Gary mentioned, it is based quite
24 extensively on the PG&E team's recommendations and
25 case study.

1 Gary has certainly made quite a few
2 modifications and provided a lot of valued added.
3 There was a lot of back and forth between our team
4 and the NEMA team, who I assume will be speaking
5 shortly. So this represents a lot of compromise,
6 a lot of progress on many of the outstanding
7 issues. I think this is a very good proposal.

8 What I wanted to do here is make one
9 suggestion for improvement and then talk about a
10 couple of things that weren't done in this
11 proposal that we think do make sense. I'll
12 describe a little bit the rationale behind that.

13 The one change we would like to suggest
14 is that for the low wattage lamp case there is now
15 a category where instead of 400 watt lamps that
16 you use a lamp up to 350 watts. We recommend that
17 that 350 watt maximum be reduced to 335 watts.

18 What happens is all the manufacturers
19 have 320 watt lamps and 350 watt lamps. The 350
20 watt lamps have been around for a long time. They
21 were designed to be a somewhat energy-saving
22 replacement for these lamps. The 320s were
23 developed more recently on average and those are
24 designed to provide effectively about the same
25 light output as many of the old 400 watt lamps

1 using pulse-start technology and using a very
2 high-efficiency ballast.

3 There's clearly extra energy that can be
4 saved if you use a 320 watt lamp instead of a 350
5 watt lamp. All five of the significant
6 manufacturers have 320 watt product. It's not
7 like there's a rationale for industry competitive
8 reasons.

9 And I believe there is a chart that
10 Amanda is now showing you, the light output, the
11 mean lumens. The 320 watt category fully
12 encompasses the 350 watt category. That's looking
13 at a graph of a lot of the products now on the
14 market and using mean lumens from manufacturer
15 catalogs.

16 So we believe for this exception we can
17 increase the energy savings by capping it at 335
18 instead of 350. We picked 335 as roughly the
19 midpoint between the current 320 watt lamps and
20 the current 350 watt lamps. So that's our one
21 recommendation.

22 A couple of other things I wanted to
23 note. We do support the phase-out of the low
24 wattage lamp compliance path as of 2014. The idea
25 here is that electronics, the 90 or 92 percent

1 efficient ballasts that Gary talked about, are
2 still going through additional development. They
3 work pretty well but there are some outdoor and
4 high temperature applications where they are not
5 quite appropriate yet.

6 Based on our research we think it is
7 highly, highly likely that they will be far along
8 in 2014 and therefore it is appropriate to phase
9 out those low wattage lamp compliance paths and
10 just push everybody towards these electronic
11 ballast or equivalent performers.

12 However, while we do support 2014 we are
13 open to if in 2012 or 2013 they are not as far
14 along as we are pretty confident they will be, to
15 consider at that point delays in the effective
16 date. But under the federal law, the law passed
17 last year by the federal government, California
18 has a one-time opportunity to not be preempted by
19 federal standards. And that's a standard that
20 they adopt as part of this rulemaking. This
21 exemption from preemption expires the end of next
22 year.

23 So by our reading, if California were to
24 set a date, call it 2016 and then decided they can
25 move it up, you would be preempted. However, if

1 you decide now it is 2014 and you say well, you
2 want to relax it, our interpretation is, and you
3 should check with your legal counsel as well. You
4 can delay something, it is not tightening it, it
5 is loosening it, and you shouldn't have a problem
6 with preemption but the reverse could be
7 problematical.

8 So we do support the 2014 date but
9 subject to, you know, come 2012 or 2013 how these
10 products are doing. We are quite confident that
11 they will be along to meet all applications but
12 recognize that there is some uncertainty and that
13 could be better addressed in the 2012, 2013 time
14 frame than trying to do it here and now.

15 Another thing I would note is that in
16 our very early case study we had recommended some
17 broader exemptions for some of the outdoor fixture
18 applications. That was before this low wattage
19 path, before these control paths were added. Now
20 that we have multiple compliance paths we don't
21 believe we no longer need an exemption for these
22 outdoor fixture types. We think with the low
23 wattage paths, with these control paths, all
24 applications can find an appropriate application.
25 Find an appropriate product to meet the

1 application.

2 So one other thing I point out is that
3 this particular proposal involves just metal
4 halide luminaires. The other major category,
5 particularly in outdoor lighting, is high pressure
6 sodium.

7 The PG&E team started to look at this as
8 part of this case study, realized there were quite
9 a few issues, not insurmountable but a number of
10 new issues that are raised because we hadn't done
11 as much work on high pressure sodium. And given
12 the very quick pace of this rulemaking we decided
13 to just concentrate on metal halide now. However,
14 the PG&E's team intends to look at high pressure
15 sodium next year and quite possibly recommend
16 standards for the high pressure sodium fixtures.

17 The reason I mention it is I know there
18 is some concern that if we ramp down this much on
19 the metal halide fixtures some people may start
20 using high pressure sodium, which are unregulated
21 and might be cheaper. But it is certainly our
22 intent long before 2014 when the compliance paths
23 phase out to have a good proposal that hopefully
24 you guys will consider and adopt. A good proposal
25 for high pressure sodium lamps. We think that can

1 be done. And address concerns about, gee, will
2 high pressure sodium sales grow.

3 So those were the different points I
4 wanted to make. One, basically accept the current
5 proposal. To reduce the wattage from 350 to 335
6 for the low wattage compliance path. Two, keep
7 the 2014 effective date, update, for that low
8 wattage lamp path. Three, continue to cover
9 outdoor fixtures because of the low watt lamp and
10 the control pathways. There are different
11 pathways for all the different products to meet.

12 And I say be open to a high pressure
13 sodium fixture standard that would be somewhat
14 comparable to this that would basically improve
15 both categories and allow them both to be
16 efficient.

17 So that concludes the comments I wanted
18 to make. Jennifer Thorne Amann on our staff is
19 also on the phone, I believe, and Amanda is there.
20 Jen and Amanda, do you have anything you want to
21 add?

22 MS. STEVENS: No I don't.

23 PRESIDING MEMBER ROSENFELD: Steve, this
24 is Art Rosenfeld, I have a question.

25 MR. NADEL: Please.

1 PRESIDING MEMBER ROSENFELD: I guess I
2 don't understand what happens to the 350 and 400
3 watt lamps which you are showing us are not as
4 good in lumens per watt. What happens to that
5 whole line?

6 MR. NADEL: What happens to the line?
7 What would happen -- I mean, under the current
8 proposal if you wanted to use up -- you can't
9 really, you can't use a 400 watt lamp unless you
10 use a very high efficiency ballast, a 90 or 92
11 percent efficiency. Because you get the
12 efficiency improvements through the ballast.

13 An alternative path is to, under the
14 current proposal to allow either 320 or 350 watt
15 lamps to be used with a less-efficient ballast.

16 What we are recommending is that the
17 less efficient ballast option only be for 320 watt
18 lamps and not be for the 350. For the 350s you
19 have use the more efficient ballast.

20 PRESIDING MEMBER ROSENFELD: Thank you.

21 MR. NADEL: Does that --

22 PRESIDING MEMBER ROSENFELD: That's
23 quite clear, thank you.

24 MR. NADEL: Sure.

25 PRESIDING MEMBER ROSENFELD: Questions

1 or comments?

2 MR. FLAMM: So I believe at this time
3 NEMA would like to make a presentation. Do you
4 have a presentation or do you just want to make
5 comments?

6 MS. ENGLISH: Just comments.

7 MR. FLAMM: Okay, NEMA is on the agenda
8 to make comments.

9 MS. ENGLISH: Good afternoon, Cheryl
10 English, Acuity Brands Lighting. I guess a couple
11 of points to start with on some of the data that
12 was just presented. Let's see here. Let me just
13 start to my comments and we can get to the
14 questions.

15 First off I just -- Great kudos to Gary
16 Flamm through this process of herding the cats
17 because he really has done a very good job of
18 coordinating and collaborating with both sides of
19 this issue.

20 I think to start out with it is helpful
21 to talk about the history of this proposal for
22 2008 and where it started with the primary focus
23 on electronic metal halide ballasts. The
24 efficiencies associated with that are typically
25 about four to six percent with mean lamp lumen

1 improvements you are talking about nine to ten
2 percent savings. And understanding AB 1109 and
3 the priorities there we stepped back and we said,
4 let's really focus on where the energy savings
5 are, and it is not on ballast efficiency.

6 (Whereupon, there was
7 teleconference interference.)

8 ASSOCIATE MEMBER PFANNENSTIEL: Would
9 you check with the operator and see what is going
10 on with the phones.

11 MR. RIDER: It's feedback. They had the
12 lines open, we'll close them now.

13 ASSOCIATE MEMBER PFANNENSTIEL: Thank
14 you.

15 MS. ENGLISH: Okay, thank you. So the
16 greater savings associated with metal halide would
17 really be controlling the time of use. And so we
18 stepped back and said, controls are really the
19 answer to getting to the AB 1109 thresholds of
20 those savings. What do we know that is tried,
21 proven, cost-effective? And we came back with a
22 proposal for regulating controls, integral
23 controls into indoor HID products.

24 And I think that proposal was well-
25 received. We believe that it is a solid proposal,

1 it has substantial energy savings. The intent was
2 only integral controls for indoor, hi-bay and low-
3 bay types of products. As we came back with a lot
4 of variations and compromises on this I think the
5 code language has really morphed into something
6 that was never really intended.

7 We are here at 45-day language. We do
8 need to come up with some agreeable language, we
9 recognize that. But I would encourage us to step
10 back and really make an assessment on whether or
11 not what we have today is going to be effective.
12 Is it going to save energy and is it going to be
13 enforceable.

14 So some of the issues that we see in
15 this currently are -- and I'll start with the
16 electronic ballast issue. The \$75 cost adder that
17 is expressed there. We have commented previously
18 that that is not an accurate end user cost. We
19 had recommended that \$100 is more representative.
20 Quite honestly it is \$100 to \$125 depending on the
21 characteristics that are required of that ballast.

22 But that is only for the component.
23 What you have regulated is a metal halide
24 luminaire. That component is not readily
25 adaptable into existing luminaires because of the

1 thermal management associated with the
2 electronics.

3 So in order to accommodate that thermal
4 aspect for indoor luminaires the ballast housing
5 has to be redesigned with fins to cool that
6 ballast. Our engineering group has said that they
7 believe that there's probably about a 30 percent
8 incremental aspect of more material into that
9 ballast housing.

10 If it is an outdoor luminaire the size
11 of the housing has to be increased. The effective
12 projected area in one case that we looked at went
13 from 2.3 square feet to 3.3 square feet, which is
14 a 50 percent increase in the material associated
15 with that housing for that fixture. Then we've
16 got --

17 PRESIDING MEMBER ROSENFELD: Is that all
18 associated with more cooling, Cheryl?

19 MS. ENGLISH: Yes. Then, you know, with
20 that additional area the pole sizing has to be
21 larger. So you're talking about going from a
22 four-inch steel pull to a five-inch steel pole.
23 So you are adding 50 percent more material. The
24 cost of that pole, incremental cost of that pole
25 is about \$800. So we are not talking about a \$75

1 or \$100 component adder because we are looking at
2 the end-use product here. So it is very
3 significant in terms of the cost.

4 The other technical issues associated
5 with power quality and reliability are very real.
6 Electronics are sensitive. And this is primarily
7 related to outdoor products. I think that we can
8 get improvements on indoor characteristics for
9 electronic ballasts.

10 But on outdoor with unregulated power
11 quality and surges there are going to be a lot of
12 issues in using electronics in those kinds of
13 applications. Can we add additional filters and
14 things to address that, yes, but then we are even
15 talking about a higher increment that really
16 addresses whether or not this is cost-effective.

17 The second area of this proposal related
18 to controls. Our proposal was integral controls
19 because we recognize Title 20 as being an
20 appliance standard. What is regulated is what is
21 sold in a box and sold to the field. And we felt
22 like that was reasonable. We did not intend for
23 it to be extended to outdoor products because the
24 best control strategy for outdoor is not integral
25 controls.

1 We have done test cases at Mondavi
2 Center with outdoor lighting and controls. We
3 hardly endorse the use of controls for outdoor
4 lighting. But they tend to get application-
5 specific and it is not a one-for-one match-up of a
6 control unit, a sensor, to each luminaire. It has
7 to do with the geometry of the site. There are
8 obviously a lot of safety and security issues as
9 you start dimming down outdoor lighting.

10 For indoor lighting the daylight
11 controls when it is integral means that that
12 sensor is close to the luminaire rather than close
13 to the skylight or where the daylight is being
14 measured. So the sensitivity of that control unit
15 is compromised because it has to then filter out
16 what it is seeing from the fixture versus what it
17 is seeing from the daylight. It requires what is
18 closed a closed-loop system where a control point
19 would be communicating with other control points.
20 And again, feasible. Not the most effective
21 solution, not the most cost-effective solution.

22 Dimming also remains an issue with metal
23 halide systems, both electronic and pulse-start
24 types of systems. There are no industry solutions
25 for dimming with horizontally-lamped luminaires.

1 and the majority of outdoor products do contain a
2 horizontal lamp.

3 The data that was shown here on this
4 graph that is up on the screen right now of the
5 various lamps. We have some questions about that
6 data. We are not aware of any commercially
7 available 300 watt lamps. And that particular
8 graph does not distinguish between burning
9 positions, whether it is horizontal or vertical or
10 universal burn.

11 This was an issue we brought up in 2005.
12 We brought very specific data to show the gaps in
13 the marketplace where there were not lamps
14 available for the technology. And to be perfectly
15 honest, there are still gaps today of lamps that
16 are not available for certain wattages and certain
17 burning positions. We have closed the gap a lot
18 since 2005. But it was a code that was put
19 together prematurely, assuming that the technology
20 would be there.

21 With the lack of that technology what
22 has happened in California is a lack of
23 enforcement. There is no technology that can meet
24 the 2005 standard, quite honestly. It has not
25 been enforced. I don't think you are getting the

1 energy savings. So our goal here is really to
2 craft language that can be enforced, that can be
3 simple, so that we actually get those energy
4 savings.

5 With regard to the reduce lamp wattage
6 solution. We believe that this could potentially,
7 the sunset clause could inhibit the use of outdoor
8 controls. If this goes through forward as it is
9 today with the 2014 sunset, that is the viable
10 option for most of the outdoor solutions. If it
11 goes away what it means is that those outdoor
12 products are either going to use electronic
13 ballasts, which we believe is highly unlikely in
14 addressing the surge and thermal protection.

15 It then means that that product has to
16 be shipped with an integral control. Are those
17 solutions going to use those non-integral controls
18 when they have already had to buy a box that ships
19 with an integral control? No they are not. So
20 again the issue is primarily the outdoor lighting.

21 Integral controls for outdoor does not
22 make sense for a lot of applications. Sports
23 lighting, areas with security cameras where the
24 lights have to remain on for safety and security
25 purposes, visibility purposes. Parking garages,

1 street and roadway lighting. You know, those
2 areas are probably not likely to be the best
3 candidates for dimming solutions.

4 We do believe that there are some
5 applications such as parking lots where there's a
6 lot of potential for energy savings with controls
7 but it is not integral. It's non-integral
8 controls.

9 So where we are at today is that I think
10 through the proposed language virtually all of our
11 comments have been addressed. We do not support
12 the 2014 sunset. There is nothing to prove that
13 the technology is going to address these issues
14 for outdoor lighting with regard to the power
15 quality and surge protection.

16 We have no idea what the costs will be
17 associated with that and whether that is really
18 effective for the consumers of California. Plus
19 the current code is very complicated and I
20 seriously doubt whether it could ever be enforced
21 with the system that we have here today.

22 So we have exposed you to some technical
23 issues that we have concerns about. Going forward
24 we certainly want to be involved in a process that
25 is more rigorous in terms of validating the

1 technological feasibility, the cost-effectiveness
2 and the energy savings potential because we raised
3 a number of questions with regard to the original
4 PG&E case proposal.

5 The 2014 sunset is unacceptable and it
6 needs to be removed.

7 The case study, the PG&E case study
8 actually had suggested an exemption for outdoor
9 luminaires because of these technical issues we
10 raised but today there is still no exemption for
11 outdoor fixtures in the proposed code.

12 Recognizing the dilemma that we are here
13 with AB 1109 and the need to establish a
14 regulation, our recommendation would be to keep
15 indoor products, indoor metal halide products,
16 with the current proposal. So that it would allow
17 electronic ballasts, it would allow pulse-start
18 with controls, or it would allow pulse-start with
19 a reduced lamp wattage.

20 My personal opinion, we have not had a
21 chance to, you know, route Steve's proposal on
22 this 335 range so I can give you my company's
23 perspective. But I really don't seen any
24 significant issues with that. I don't know that
25 it is going to get you the energy savings because

1 it may force people down to a 320 watt lamp and
2 they will simply use more luminaires. So the
3 question is, really is it going to save energy.
4 But I think that we could certainly entertain that
5 among the rest of the NEMA members.

6 With regard to outdoor lighting our
7 recommendation would be to keep the 88 percent
8 ballast efficiency requirement that is in place
9 today and add a requirement that they have to use
10 these reduced lamp wattages. We would prefer to
11 not see any requirements related to controls for
12 outdoor in this Title 20 requirement because we
13 think that the control solutions are best handled
14 by application type. We would be more than
15 willing to work with you on Title 24 that works
16 specifically with applications to build in
17 requirements for lighting controls for outdoor
18 lighting.

19 And I think that's the extent of my
20 comments, thank you. Some of the other NEMA
21 members may choose to make comments.

22 MR. PENNINGTON: Could I ask a question?

23 PRESIDING MEMBER ROSENFELD: Please,
24 Bill.

25 MR. PENNINGTON: Cheryl, could I ask you

1 a question. You said that you would recommend for
2 outdoor, in addition to the 88 percent to require
3 the use of the reduced wattages.

4 MS. ENGLISH: Right.

5 MR. PENNINGTON: What do you mean by
6 require?

7 MS. ENGLISH: Those wattage ranges that
8 are in there today, we would support that. If we
9 need to go down to a 320 we could certainly
10 entertain that.

11 MR. PENNINGTON: Okay. So you didn't
12 mean to disallow 400s totally for outdoor and move
13 to 335s as a required. I didn't understand what
14 you meant by required.

15 MS. ENGLISH: That is what we are
16 proposing, is that a 400 watt would no longer be a
17 viable solution.

18 MR. PENNINGTON: Would not be allowed in
19 California.

20 MS. ENGLISH: For outdoor lighting.
21 Today you have the 88 percent ballast efficiency.
22 I will tell you, you are not getting the energy
23 savings because the marketplace has not adopted
24 the 2005 standard. So you have the 88 percent
25 today. And we are saying, in addition to that the

1 lamp wattage ranges would have to comply with
2 those ranges that are in the proposed code in
3 order to get you the additional energy savings.
4 Those are lamp and ballast systems that exist
5 today.

6 MR. PENNINGTON: So we would have to
7 rewrite the proposal to disallow 400 watt lamps in
8 outdoor application.

9 PRESIDING MEMBER ROSENFELD: As a matter
10 of fact I think she said 400 and 350.

11 MS. ENGLISH: Right.

12 MR. PENNINGTON: So that's correct,
13 that's what you are saying.

14 MS. ENGLISH: Yes. And I think it is
15 actually -- You know, we didn't spend the time
16 here wordsmithing the proposed code language but I
17 don't know that it is that significant of a change
18 because it is in there today. We just need to
19 break out how indoor products are handled and how
20 outdoor products are handled.

21 On the enforcement issue. And I know
22 it's not part of an agenda today. But we would
23 very much like to sit down, maybe at CLTC with a
24 group, to really craft out what can we
25 collectively do with the Commission and with

1 industry to better educate. We have communicated
2 in our best efforts to the marketplace these
3 requirements.

4 There is, and I have mentioned this
5 previously. There is a perspective of who holds
6 the legal responsibility of compliance. The sales
7 channels through, you know, home centers,
8 showrooms, distributors, contractors believe that
9 they are not liable, that it is the manufacturer.
10 I am not a lawyer so I can't say exactly who is
11 responsible. But ultimately the marketplace has
12 not chosen to purchase those products and you are
13 not getting the energy savings.

14 If we focus on that we may be able to
15 back off some of these very, very restrictive
16 regulatory processes and actually get the energy
17 savings that you really want. I don't think it is
18 about the regulation, it is about saving the
19 energy.

20 ADVISOR TUTT: Cheryl, can I ask you a
21 question?

22 MS. ENGLISH: Yes.

23 ADVISOR TUTT: As I understand, you did
24 propose early on in this process back and forth
25 that a controls option would be a good policy to

1 consider.

2 MS. ENGLISH: Yes.

3 ADVISOR TUTT: So in a situation -- And
4 I know you were talking indoor lighting.

5 MS. ENGLISH: Yes.

6 ADVISOR TUTT: In a situation where you
7 have an indoor luminaire that burns out, what
8 would the controls option be? One luminaire in an
9 installation in a large store, for example.

10 MS. ENGLISH: It would be replaced --
11 Chances are if it burns out they are going to go
12 in and replace a ballast or a capacitor or
13 whatever actually failed. They are typically not
14 going to replace the entire luminaire if it is a
15 maintenance type of issue. But if they chose to
16 replace that luminaire they would be replacing it
17 with a fixture that has an integral control. And
18 it means that if the area was unoccupied that one
19 luminaire would go out. It would not control the
20 rest of the luminaires in that space.

21 ADVISOR TUTT: In the standards proposal
22 we have in front of us. But was that what you
23 were proposing when you proposed a controls option
24 for this?

25 MS. ENGLISH: Well, the focus of what

1 the real impact is is on new construction and
2 major renovations.

3 ADVISOR TUTT: A Title 24 focus, right?

4 MS. ENGLISH: Well not necessarily.
5 This Title 20 covers new construction and major
6 renovation as well because the products have to
7 comply with Title 20 as well as with Title 24.

8 ADVISOR TUTT: Right.

9 MS. ENGLISH: So this is where this
10 blending is getting very clumsy between Title 24
11 and Title 20 and we are getting close to having
12 dual standards. We are finding things in Title 20
13 that are application-based. We are finding things
14 in Title 24 that are product-based. I think we
15 need to think very carefully as we move forward of
16 what goes where. How do we manage applications
17 versus products, or widgets if you will.

18 But what you have described is if one
19 burns out, they would replace that with a fixture
20 that has an integral control and it would turn off
21 only that fixture.

22 ADVISOR TUTT: Right, in the current
23 proposal.

24 MS. ENGLISH: I would love to find a way
25 that, you know -- Gary Fernstrom and I this

1 morning were talking about, are there some
2 opportunities to really get after the existing
3 building stock. Because that is where a lot of
4 the energy savings -- If we could go into
5 warehouses and really turn those to more energy
6 efficient solutions it would make a lot of sense.

7 PRESIDING MEMBER ROSENFELD: Right.

8 MS. ENGLISH: We have some ideas outside
9 the scope of the meeting here. But I, I would
10 like to get some of our collaborative meetings
11 maybe back on to a quarterly schedule so that we
12 can share some of these ideas and actually make
13 them happen.

14 ADVISOR TUTT: Thank you.

15 MS. ENGLISH: Thank you.

16 PRESIDING MEMBER ROSENFELD: Are there
17 other public comments? NEMA?

18 Gary, I guess you are up.

19 MR. FLAMM: You have comments? There
20 are some comments, Commissioner.

21 PRESIDING MEMBER ROSENFELD: Please come
22 up.

23 MR. GREEN: I'm John Green. I'm with
24 Cooper Lighting. I'd like to comment on the
25 outdoor application of electronic ballasts.

1 I know the Commission has heard
2 testimony before about the dangers and the
3 problems that might occur with the application of
4 electronic ballasts outdoors. I would just like
5 to reinforce that with a couple of personal
6 comments.

7 For magnetic ballasts, and this has been
8 in effect for quite a while, there has been a
9 measurement called the BIL, which is a basic
10 insulation measurement of how well ballasts can
11 withstand transience in the field. And for
12 magnetics it has been required, especially by
13 utilities, to have a 7.5 to 10,000 volt impulse
14 level that they have to withstand. This is
15 typical for outdoor.

16 PRESIDING MEMBER ROSENFELD: Could you
17 say it again. Basic insulation level?

18 MR. GREEN: Yes. And this point I know
19 of no electronic ballasts that carry this rating.
20 And I think that speaks very well to the ability
21 of these ballasts to not at this point be able to
22 withstand a lot of these outdoor applications.

23 The other comment I would like to
24 contribute is that I do a lot of field service
25 work for a lighting company. And we have --

1 Within the past few months I have been involved
2 with at least two jobs with the application of
3 electronic HID ballasts in parking garages. These
4 are technically outdoor applications but they are
5 really on the low end of what they might see in
6 transient voltage exposure. And we have had up to
7 80 percent failure rates with electronic ballasts
8 in these applications.

9 It is very expensive to replace ballasts
10 and bring these facilities back on-line,
11 especially when you are faced with safety issues
12 in parking garages. I'm sure everyone is aware of
13 how that can go in a legal environment. And at
14 this point there are no good solutions for these
15 types of problems. And I just know when these
16 things get further out into other applications
17 such as street lighting and parking lot areas that
18 the exposure to these transients is going to be
19 much higher than what we have seen in these
20 parking garages.

21 That's just some real-life exposure to
22 the application issues that can come up with
23 electronic ballasts.

24 PRESIDING MEMBER ROSENFELD: These are
25 all comments about outdoor lighting?

1 MR. GREEN: Yes, this is all outdoor.
2 An application of electronic ballasts outdoors.

3 PRESIDING MEMBER ROSENFELD: Can you
4 explain to me why you get more surges in outdoor
5 lighting, in parking garages and so on, than you
6 get in a building.

7 MR. GREEN: Well most of it is
8 related --

9 PRESIDING MEMBER ROSENFELD: I don't
10 know where the surges come from except I know they
11 exist.

12 MR. GREEN: Well obviously lightning is
13 an issue. And in terms of buildings you have
14 filtering that occurs on the power line as it
15 comes into a building. The building itself
16 actually shields a lot of the electrical potential
17 you might get from a lightning strike.

18 However, you look at street lighting,
19 area lights where we have a pole standing out in
20 the middle of an open field or out on a roadway.
21 The lightning strike doesn't actually have to hit
22 one of the poles, it can hit the ground beside it.
23 And all that voltage is induced into the system
24 with no ways to really filter it out. In
25 buildings where there's huge numbers of

1 concentrated fixtures and protection from the
2 building itself you don't see that.

3 Parking garages are kind of in-between.
4 They can get lightning strikes close by, they can
5 get other large -- large motors, say, starting in
6 some of these facilities. It is that the indoors
7 is filtered much better and the exposure just
8 isn't there. But the basic impulse level, the
9 BIL, was developed just for that reason. That the
10 outdoor obviously sees these issues a lot more
11 than the indoor fixture do.

12 ADVISOR TUTT: So you said that there is
13 no outdoor luminaire with these ratings today.

14 MR. GREEN: I have worked on electronic
15 HID ballasts since 1975.

16 ADVISOR TUTT: And you haven't seen one.

17 MR. GREEN: And I haven't seen one yet.

18 ADVISOR TUTT: But is someone working on
19 trying to get a rating like this?

20 MR. GREEN: Well there's a lot -- The
21 filtering has improved a lot in the 33 years that
22 I have been exposed to this but they are mostly
23 for indoor. The transient levels are just from
24 minor disturbances that come down. They really
25 put them in the same category as communications

1 equipment. I'm trying to think of some other
2 ones. TV sets is not really a good one but a lot
3 of the consumer electronics do have filters as
4 well. So the electronic ballasts are probably on
5 a par with those right now. They are not made for
6 sitting out in a field exposed to the elements,
7 these transients.

8 ADVISOR TUTT: I guess I had understood
9 that the industry in general was moving towards
10 electronic ballasts. Are you saying that they are
11 probably not going to do that for outdoor?

12 MR. GREEN: Well, it has always been
13 under consideration. There is just no cost-
14 effective way to put filters on each one of these
15 ballasts and give it the protection that we can
16 see with indoor luminaires. Because on an indoor
17 luminaire you can have a filter at the
18 distribution -- at the entrance point to the
19 building before it gets into the distribution
20 system. And those are, those are pretty common.

21 But you have a string of street lights
22 down the road, there's just no way to protect
23 that. You have to put a filter on each one of the
24 ballasts. And these could cost, you know, \$100,
25 \$200 apiece for these filters. And they are

1 available and it could be done but surely no one
2 wants to pay for them.

3 MR. PENNINGTON: I have a question. I
4 understood you to say that some utilities require
5 a threshold on this BIL measurement; is that
6 correct?

7 MR. GREEN: Yes.

8 MR. PENNINGTON: Do you California
9 utilities require that?

10 MR. GREEN: I can't answer that. I'm
11 pretty sure they do.

12 MR. PENNINGTON: Is that a question you
13 could answer with some evidence?

14 MR. GREEN: Yes, yes I could.

15 PRESIDING MEMBER ROSENFELD: Bill, I'm
16 sorry, I was taking notes. You said some
17 utilities do what? I apologize?

18 MR. PENNINGTON: He said that an issue
19 is that some utilities have a threshold on this
20 BIL measurement. And I was wondering --

21 PRESIDING MEMBER ROSENFELD: It's got to
22 be better than something or other.

23 MR. PENNINGTON: Excuse me?

24 PRESIDING MEMBER ROSENFELD: It's got to
25 be better than something or other.

1 MR. PENNINGTON: Right. And so I was
2 wondering if the California utilities impose that.

3 MR. FERNSTROM: Bill, this is Gary. If
4 California utilities did it would be for street
5 lighting products that they buy. I think it is
6 unlikely that the utility would require that a
7 product purchased by a customer for use in their
8 distribution meet a BIL requirement.

9 MR. PENNINGTON: Do you agree with that,
10 sir?

11 MR. GREEN: Well that may be true but
12 the point was that these requirements are imposed
13 on outdoor products. The utility has developed
14 this because they understand the transient issues
15 in the field. Whether another customer demands
16 that or not is another question. It doesn't say
17 that the ballast doesn't need it or that there
18 won't be failures because of that. But the
19 utilities have a bigger stake in this because of
20 the number of luminaires that they place in street
21 applications.

22 MR. PENNINGTON: Well perhaps the street
23 lights are the most vulnerable as well.

24 MR. GREEN: They probably are, you are
25 probably correct, yes.

1 MR. FERNSTROM: I agree. The utilities
2 in Florida, for example, are probably very
3 concerned about lightning strikes.

4 MR. GREEN: The cost of repairing a
5 situation where a transient comes in is extremely
6 high. I'm not sure that has been factored into
7 the consideration.

8 PRESIDING MEMBER ROSENFELD: So
9 Mr. Green, what would you actually recommend to us
10 to do about electronic ballasts outdoors?

11 MR. GREEN: I don't think there is a
12 solution right now. And as I say, it has been a
13 lot of years that I have worked on these. And
14 seeing what has developed over the years I don't
15 see a cost effective solution at the moment for
16 the majority of the outdoor applications.

17 I read the PG&E case report and they at
18 that point had suggested that outdoor be exempted
19 from that. And I can understand the reason and I
20 agree with it.

21 PRESIDING MEMBER ROSENFELD: Thank you,
22 that is very attention-grabbing.

23 MR. GREEN: Thank you very much.

24 MS. STEVENS: Hi, my name is Amanda
25 Stevens. I am with Energy Solutions here on

1 behalf of PG&E. I just wanted to follow-up on one
2 comment. I guess we are a little bit surprised by
3 the pretty bleak prognosis given for outdoor
4 applications. I would just like to highlight. I
5 guess we are a little confused. We see NEMA, in
6 comments to the CEC that were dated May 29 they
7 wrote, and I quote:

8 "There has been significant
9 progress in the development of
10 electronic ballasts for specific
11 applications. However, a full line
12 of high efficiency electronic
13 ballasts with proven reliability
14 that will support all applications
15 is not anticipated until around
16 2015."

17 So I think with the current proposal we
18 have that offers three different compliance
19 options beginning in 2010 and two different
20 compliance options in 2014, it dovetails well with
21 the expectation that electronic ballasts will be
22 available in all applications by around 2015. I
23 just wanted to add that, thank you.

24 PRESIDING MEMBER ROSENFELD: Thank you.

25 MR. FLAMM: Cheryl would like to make

1 another comment.

2 PRESIDING MEMBER ROSENFELD: Cheryl,
3 welcome.

4 MS. ENGLISH: Cheryl English, Acuity
5 Brands Lighting.

6 I did want to follow up on a couple of
7 things. On Gary's slides he talked about the
8 federal metal halide regulation and that it allows
9 some probe-start lamps. I think it actually meant
10 to be ballasts on that. And some probe-start
11 ballasts. It actually does not. We did not want
12 to have a ban.

13 I am going to defer to somebody else
14 because I am going to start coughing. I'll be
15 back.

16 PRESIDING MEMBER ROSENFELD: Do you want
17 to go on temporarily while Cheryl --

18 MR. FLAMM: Would you like me to move on
19 to the next topic?

20 PRESIDING MEMBER ROSENFELD: And we will
21 welcome Cheryl when she comes back.

22 ADVISOR TUTT: I believe that is what
23 she was asking for.

24 PRESIDING MEMBER ROSENFELD: Yes, all
25 right.

1 MR. FLAMM: Okay. So I have a -- I'll
2 just move on. When she comes back we can have her
3 jump in again.

4 PRESIDING MEMBER ROSENFELD: Sure.

5 MR. FLAMM: To frame the portable
6 luminaire regulation proposal I want to really
7 quick go over a little presentation on GU-24
8 because it kind of frames both something that's
9 proposed for the general service incandescent
10 lamps and for portable luminaires.

11 The GU-24, there are some pictures at
12 the bottom here, is a 120 volt or line voltage pin
13 twist socket that was developed by the lighting
14 industry. And it was developed, it was intended
15 for only high-efficacy light sources when it was
16 developed, like compact fluorescents and LEDs.

17 There are people in the lighting
18 industry who anticipate that the GU-24 is
19 eventually going to replace the Edison screw-base
20 for CFLs and LEDs.

21 Cheryl, I was going to go through this
22 and then you can jump up, okay.

23 The GU-24 products are relatively new in
24 the market and as such there has not been
25 significant demand for introducing low-efficacy

1 LED products because there's not many luminaires
2 with GU-24 bases in them. However, there are no
3 regulations against doing that.

4 There are a number of efforts going on
5 nationally, but as of this moment there are no
6 regulations to keep manufacturers from making low
7 efficacy products that are drop-in replacements
8 for the luminaires that were intended to be only
9 high efficacy.

10 So the GU-24 proposed regulations in
11 Title 20, they apply to general service
12 incandescent lamps, portable luminaires, permanent
13 luminaires and GU-24 adaptors. What the standards
14 regulations say is that incandescent lamps shall
15 not contain a GU-24 base. And the reason is, if
16 we have regulations that allow compliance through
17 a GU-24 socket, we don't want the market all of a
18 sudden to come out with incandescent lamps that
19 fit into those luminaires that were designed or
20 intended only for high efficacy sources.

21 The regulations also say permanently
22 installed and portable luminaires with GU-24
23 sockets basically shall be rated for use, shall
24 not be rated for use with incandescent lamps of
25 any type.

1 And GU-24 adaptors. And there is a
2 picture of a GU-24 adaptor on the bottom right of
3 this slide. Which somebody came to the market
4 with as an effort to undermine the energy
5 efficiency efforts that are going on across the
6 nation with the GU-24 socket arrangement.

7 What the regulations say is that GU-24
8 adaptors shall not convert a GU-24 socket to any
9 other line voltage socket. So those are different
10 proposed regulations that are in several portions
11 of the Title 20 regulations. And that's all I
12 have on that.

13 PRESIDING MEMBER ROSENFELD: Is this
14 already draft regulation, Gary?

15 MR. FLAMM: I'm sorry, I didn't
16 understand the question.

17 PRESIDING MEMBER ROSENFELD: This is in
18 the staff committee report?

19 MR. FLAMM: This is in the staff report,
20 yes.

21 PRESIDING MEMBER ROSENFELD: You were
22 just explaining the reasoning behind it.

23 MR. FLAMM: I just explained it because
24 there has been some confusion. We actually have
25 three elements in the regulations in different

1 places in the Express Terms. In one place it says
2 that incandescent lamps shall not have a GU-24
3 base. In another place it says that you can't
4 have adaptors to change a GU-24 luminaire to
5 something else. And, luminaires shall not be
6 rated for incandescent lamps if they have a GU-24
7 socket. And also in the portable luminaire
8 regulations we say, one of the compliance paths is
9 to have a portable luminaire with a GU-24 socket.
10 So to kind of pull that all together because it
11 has been so confusing we broke it out in the staff
12 report and I broke it out as a separate
13 presentation here.

14 PRESIDING MEMBER ROSENFELD: And one of
15 the things it does is to forbid that adaptor,
16 which you have down there.

17 MR. FLAMM: That is correct.

18 PRESIDING MEMBER ROSENFELD: Good.
19 Thank you for that mini-presentation.

20 MR. FLAMM: You're welcome. Do you want
21 to invite Cheryl back up right now?

22 PRESIDING MEMBER ROSENFELD: Yes, I am
23 going to invite Cheryl back.

24 MS. ENGLISH: Sorry for the
25 interruption. I have my water now.

1 So on the federal metal halide luminaire
2 requirements there seems to be a perception that
3 it allows probe-start ballasts. Generally when we
4 look at regulations we don't like to ban a
5 technology because it may limit future
6 development. So there is a category put in there
7 for probe-start ballasts that have to be 94
8 percent efficient. If and in the event that
9 someone chose to invest some R&D and could achieve
10 that, that it wouldn't ban future technologies.
11 There are no probe-start ballasts today that meet
12 that requirement so the federal requirement
13 essentially does ban probe-start technology.

14 With regard to Steve Nadel's suggestion
15 of, let's wait and see and we can waive the 2014
16 requirement when we get there. We'll know more
17 about what the technology development is. I find
18 that very problematic and I again would suggest
19 that we remove the sunset clause.

20 DOE will be under direction to upgrade
21 the federal requirements. And if the technology
22 at the next DOE rulemaking suggests that those
23 electronics do make sense then we would be
24 proposing higher efficiencies for the DOE federal
25 requirements.

1 This wait and see on a piece of
2 legislation and regulation I find to be very
3 problematic because we can't plan our businesses
4 around knowing whether or not this is a
5 requirement or not. And our investments in our
6 technologies are typically two to three years in
7 advance.

8 With regard to the NEMA comments that
9 were submitted. We do believe that there are
10 going to be a lot of advances in the electronic
11 technologies. Our comments I believe were taken
12 out of context because we do not know whether or
13 not these issues related to the outdoor lighting
14 with the power quality and thermal management will
15 be addressed by those dates. We do know that
16 there will be a lot more options by those dates.
17 And we don't know what the cost-effectiveness of
18 that is going to be.

19 So we are all sitting here today
20 suggesting information that we have no data on.
21 And I believe it is a requirement of the
22 California Energy Commission to write regulations
23 that have proven energy savings, are proven to be
24 cost-effective and technologically feasible.

25 There's two aspects of that, actually

1 three aspects, because we don't even know what the
2 energy savings potential will be on stuff that
3 doesn't exist. We clearly cannot project the
4 costs. And we don't know whether or not it will
5 be technologically feasible. So again, I think
6 the 2014 sunset does need to be removed. Thank
7 you.

8 PRESIDING MEMBER ROSENFELD: Does that
9 conclude metal halides?

10 ADVISOR TUTT: You might ask if there's
11 any other comments.

12 PRESIDING MEMBER ROSENFELD: I guess
13 not. I guess we are ready to go on. Portable
14 luminaires.

15 MR. FLAMM: Okay, we'll move on to
16 portable luminaires. The Energy Commission
17 received two initial proposals. One proposal from
18 PG&E and later a proposal from the American
19 Lighting Association. The Energy Commission had a
20 proposal in the Preliminary Staff Report that we
21 presented on May 15.

22 The PG&E proposal initially evaluated
23 the idea of recommending compact fluorescents be
24 prepackaged for sale with screw-based luminaires
25 and they dropped that. They recommended in their

1 original study to drop that. And the American
2 Lighting Association asked that this option be
3 reconsidered.

4 In the American Lighting Association
5 proposal they proposed to regulate only 20 percent
6 of the most popular styles that they suggested
7 would influence 80 percent of the sales. We had a
8 number of discussions and it was determined that
9 there's no way that that could be applied. There
10 is no way to administer such a regulation.

11 So the Energy Commission proposed
12 melding a few of the initial proposals and worked
13 together with the different stakeholders. And we
14 included the limitation on the maximum wattage of
15 the portable luminaire. The American Lighting
16 Association argued that that limitation was not
17 technically feasible.

18 So we basically went back to the drawing
19 board at that point with the stakeholders. And we
20 actually came out with a very good proposal that
21 it is my understanding that all the stakeholders
22 support. And there are five compliance options
23 that we are proposing that's supported by all of
24 the stakeholders. And there's two exceptions to
25 those, to the proposals. And there's a

1 requirement for reporting the sales data that has
2 been added.

3 so the five proposals, the five options
4 for complying with portable luminaires:

5 Number one is that it is equipped with a
6 dedicated fluorescent lamp socket. That would
7 mean it is a pin-based socket with an integral
8 ballast in the luminaire.

9 The second would be it is an LED
10 luminaire or a portable luminaire using LED
11 lighting, including the power supply. This does
12 not mean an LED light bulb. It means an LED
13 driver of some kind, a light engine.

14 The third option is it is equipped with
15 a GU-24 socket that can only support high-efficacy
16 lamps. And that is why I went over that GU-24
17 presentation.

18 The fourth option, which was proposed by
19 ALA and initially considered by PG&E, was
20 prepackaged and sold with high-efficacy compact
21 fluorescents. The type of fluorescent would be
22 based on the 2008 Energy Star efficiency levels.
23 Or they could be packaged with high-efficiency LED
24 lamps or LED light bulbs.

25 And the fifth option is it is equipped

1 with a single-ended, non-screw-based halogen lamp,
2 either line voltage or low voltage, and it
3 includes a dimmer or a high/low control, and shall
4 be rated for a maximum of 100 watts. So those are
5 the five options.

6 ALA had requested two exemptions to the
7 prepackaging of compact fluorescents with the
8 portable luminaire. Portable wall-mounted
9 luminaires that meet a list of specified
10 requirements. And art work luminaires that meet a
11 list of specified requirements.

12 And then the additional requirements are
13 that portable luminaires that have internal power
14 supplies shall have zero standby loss when the
15 luminaire is turned off. And finally, beginning
16 in January 2013, manufacturers selling products in
17 California for non-screw-based halogen luminaires
18 shall report that sales data to the Energy
19 Commission.

20 So the estimated energy cost is \$2.50 a
21 luminaire. That is based upon a prepackaged
22 compact fluorescent lamp. Which reduced the cost
23 over the design life of \$26.99. And the current
24 annual statewide energy use for portable
25 luminaires is 3,063 million kilowatt hours as of

1 2008.

2 And that is the end of my presentation.
3 So I believe that PG&E is going to, the PG&E team
4 is going to make a presentation.

5 PRESIDING MEMBER ROSENFELD: Gary, while
6 you are finding that. I just realized I don't
7 visualize this. In your next to the last slide
8 you said, portable wall-mount adjustable
9 luminaires. What is a portable wall-mounted
10 adjustable luminaire? I can't visualize it. I
11 just said that, I guess.

12 MR. FLAMM: There are luminaires that
13 the American Lighting Association was concerned
14 with. These are luminaires that they characterize
15 as typically being put in a bedroom. They are
16 hung on a wall. They have some kind of an
17 articulated arm that they come off of the wall.
18 Typically have a dimmer in them.

19 So they requested that that be exempt
20 because of the security needs. They were
21 concerned that a compact fluorescent, even if they
22 were prepackaged with a dimmable compact
23 fluorescent, that someone in the future may put
24 the wrong kind of lamp into that. A non-dimmable
25 compact fluorescent into that luminaire.

1 So they had some safety concerns and
2 they requested that that luminaire, which is very
3 specifically defined. There's probably about ten
4 elements that it has to meet before it qualifies
5 as being that wall-mounted luminaire. Is that
6 enough explanation?

7 PRESIDING MEMBER ROSENFELD: No, that's
8 fine.

9 MR. FLAMM: Okay.

10 MS. STEVENS: Thank you. Good
11 afternoon, my name is Amanda Stevens. I am here
12 on behalf of PG&E. And I would like to thank
13 everyone here for having us give our points on
14 portable fixtures. So the PG&E team, the CEC
15 staff and the ALA have had conference calls since
16 the May workshop and we feel that these have led
17 to some very constructive discussions.

18 In general PG&E supports the 45-day
19 language for portable luminaires. As Gary
20 mentioned, the proposed rule provides flexibility
21 through five different compliance options and will
22 also result in significant energy savings beyond
23 those which will be captured through the general
24 service lighting standard and the proposed
25 acceleration of the federal general service

1 lighting standard in California. The estimated
2 energy savings from this proposal is between 41
3 and 62 gigawatt hours and four to six megawatts in
4 the first year of sales.

5 So as I said, we are in general
6 agreement with the 45-day language. My comments
7 today are going to be pretty brief and they are
8 going to focus on three specific issues. First,
9 the proposed exemption for the wall-mounted
10 luminaires that was just discussed. The second
11 being the Energy Star requirement language for
12 CFLs. And the third being some minor points about
13 the LED lamp definition.

14 So regarding the wall-mounted
15 luminaires. We stated during discussions with ALA
16 leading up to the 45-day language that we didn't
17 believe these particular products warranted an
18 exemption. Although I would like to add that we
19 do think the proposed definition is pretty tight
20 so we don't see any real possibility for a
21 loophole there. But I would like to take just a
22 few minutes to walk through some of our reasoning
23 as to why we think these don't really warrant an
24 exemption.

25 So one of the rationales that was given

1 at first was that they should be exempted because
2 they were a low volume product. Most of the
3 people were probably at the May workshop, but the
4 long-tail distribution was discussed at length
5 during this workshop. The ship-with-CFL option or
6 packaged-with-CFL was originally proposed by the
7 ALA as a way to accommodate these low volume
8 products in the long-tail distribution. So we
9 question the rationale for exempting a subset of
10 fixtures which would now be exempted on these
11 grounds.

12 And then the second point being that
13 even packaging dimmable CFLs, as most of these
14 fixtures are typically dimmable, even assuming the
15 CFL costs \$10 to \$15, it will still have a three
16 to four year simple payback.

17 So finally the last point I would like
18 to make here is that the original intent of the
19 proposal was to provide an overall cost effective
20 option while still providing consumers with enough
21 flexibility to meet their lighting needs.

22 So we have heard there may be some
23 concerns because the dimmable CFLs available today
24 don't meet the same range of dimming precisions as
25 CFLs. However, we expect CFLs in most cases will

1 be able to meet this need, and in other cases we
2 propose that an additional compliance option would
3 be to use LEDs, either as a primary or secondary
4 light source to provide these very low levels of
5 dimming in these fixtures.

6 So I'll move on to the second point we
7 would like to make. The proposed regulation
8 requires CFLs shipped with a portable fixture to
9 meet the minimum energy efficiency requirements
10 established for 2008 by Energy Star. On December
11 2 of this year a new Energy Star specification,
12 Version 4.0, goes into effect.

13 We would like to suggest that to avoid
14 any ambiguity which may arise that the specific
15 Version 4.0 should be referenced. And I
16 understand there may be some legal issues here but
17 we would like to recommend that Version 4.0 be
18 specifically referenced so there is no ambiguity.

19 And just to show, there are different
20 minimum efficiency requirements right now from the
21 one that is currently in effect, 3.0, and the one
22 that goes into effect in December, which is
23 Version 4.0. And there's also several new
24 categories in the new Energy Star specs. So just
25 to highlight that there is a difference.

1 And then the last point I am going to
2 make is more of a minor point. But we noted that
3 with the compliance option that allows fixtures to
4 be shipped with either a CFL or an LED lamp, we
5 noted that the term LED lamp has not yet been
6 defined. We suggest that this may be a definition
7 that could be added to avoid any potential
8 ambiguity.

9 And then on a related note. We noted
10 that it may be just a typographical mistake but
11 page eight of the Express Terms mentions an LED
12 Source and we think the intended phrase may be LED
13 Light Source.

14 So that concludes my comments. Thank
15 you very much.

16 PRESIDING MEMBER ROSENFELD: Thank you.
17 Any comments? Yes, you are coming up.

18 MR. POPE: Thank you. Ted Pope with
19 Energy Solutions for PG&E.

20 Gary, I just want to clarify. I think I
21 heard you say a primary argument for the exemption
22 for the wall-mounted fixtures was because non-
23 dimming lamps may be installed in fixtures. Is
24 that what you meant to say? Because I feel like
25 that is pretty much the same issue for all.

1 MR. FLAMM: Yes, I believe that was,
2 that was one of the arguments. One of the
3 arguments that resonated with me was that if they
4 sold the lamp -- they are typically dimmable. The
5 ALA information was that they are typically
6 dimmable so they would have to sell that with a
7 dimmable compact fluorescent. And they are used
8 in bedrooms and around the crib and, you know, a
9 more intimate setting. And if the consumer
10 replaced that dimmable compact fluorescent with a
11 non-dimmable compact fluorescent in their
12 ignorance, that it could be a hazard, it could be
13 a safety hazard. So that was one of the
14 arguments.

15 MR. POPE: Thanks for clarifying that.

16 MR. LINSTONE: I am Clark Linstone. I
17 am the Chief Financial Officer of Lamps Plus,
18 which is the largest independent lighting chain in
19 California and the United States. I am also here
20 as Chairman of the Government Affairs Committee of
21 the American Lighting Association and a member of
22 its Board of Governors and I am formally
23 representing ALA at this hearing.

24 Our President, Dick Upton, who was able
25 to attend last time is still Washington DC where

1 we are concluding our annual conference. So he
2 wanted me to apologize for his not being available
3 today.

4 First of all I would like to express our
5 appreciation to everybody involved in this
6 process, PG&E, Energy Solutions, the CEC.
7 Particularly Gary Flamm in orchestrating all our
8 conversations since our last discussion of this,
9 of this topic. After several months of work and
10 many phone calls, conference calls, which Amanda
11 alluded to, we feel very comfortable with the
12 final proposal as it is presented, which includes
13 five options that Gary went through.

14 We believe that the inclusion of the CFL
15 prepackaged with the lamp will substantially
16 achieve not only the goals set in terms of new
17 product, but also by introducing the bulbs to the
18 household that they will use similar CFLs in other
19 products around the house. So we think actually
20 there will be a almost multiplier effect as a
21 result of providing the lamp with the product.

22 In terms of the exemptions, which I know
23 we have had some discussion of and I will touch on
24 briefly. Specifically this adjustable swing-arm,
25 wall-mount portable. Which on the surface may

1 seem like it doesn't make sense, a wall-mount
2 portable lamp. By UL definition a portable lamp
3 is anything that has a plug on it. So while it is
4 affixed to the wall it is actually plugged into an
5 outlet, hence falling under the portable luminaire
6 definition.

7 Typically where this product is used is
8 for almost like background light. I'll give you
9 an example. Perhaps in a children's room. It
10 might serve as a night light. It's a very -- So
11 typically this product, as was indicated, has a
12 dimmer. It usually needs to function at very low
13 levels if it is to fulfill that function.

14 And one of the concerns that the
15 American Lighting Association had was that as far
16 as we know today, we do not have the ability to
17 dim as far down a dimmable fluorescent as is
18 probably required by the product today. We are
19 concerned in general about replacement. The fact
20 that this would be on the wall.

21 The other exemption. One of the things
22 that was mentioned also was using LED. Because
23 this is general area light, in terms of the way we
24 see it typically used, we don't see the LED option
25 as being very workable for this particular

1 scenario.

2 The other exemption in terms of artwork.
3 In talking with the people -- and what we are
4 talking about here is similar to the wall
5 luminaire. It is a picture light which is plugged
6 into an outlet. And their concerns were in terms
7 of using CFLs, was the effect of UV light on the
8 actual artwork. It's a very specific product.

9 And in terms of actually finding product
10 that would serve its basic function today, we
11 don't know of any that exists that would be able
12 to both take a compact fluorescent and also not
13 produce any negative effects to the artwork.

14 So that's why in our discussions with
15 the staff and in our conference calls we thought
16 these two exemptions were appropriate. But all in
17 all we are very positive in terms of the whole
18 process and support the recommendations put forth
19 by the CEC staff.

20 PRESIDING MEMBER ROSENFELD: That makes
21 a lot of sense. I think I wasn't listening to
22 your last sentence. I thought the exemption for
23 the artwork was because of the focusing
24 properties. Are you saying that CFLs put out more
25 ultraviolet than --

1 MR. LINSTONE: I should say, for the
2 focusing in terms of how the light --

3 PRESIDING MEMBER ROSENFELD: Right.

4 MR. LINSTONE: It doesn't focus, the
5 CFL. That's a point that I should have included.
6 But also in talking with at least the people we
7 were talking to in terms of picture light. That
8 there is more UV that would affect the artwork.

9 PRESIDING MEMBER ROSENFELD: From a CFL.

10 MR. LINSTONE: From a CFL, yes.

11 PRESIDING MEMBER ROSENFELD: I didn't
12 know that. Okay, thank you.

13 MR. LINSTONE: Thank you.

14 PRESIDING MEMBER ROSENFELD: Ted, you
15 are looking, hovering.

16 MR. POPE: I apologize. Ted Pope,
17 Energy Solutions for PG&E.

18 I just had a e-mail from Steve Nadel.
19 And maybe it's too far out of order but he has
20 been trying to respond on the metal halide issues
21 that came up and apparently wasn't able to get
22 through.

23 MR. RIDER: The operator hasn't said
24 anything but I can --

25 MR. POPE: I don't know. Is it

1 possible?

2 PRESIDING MEMBER ROSENFELD: Sure.

3 MR. POPE: He was about to leave in five
4 minutes, if he hasn't left. If he is still here
5 maybe he has something he wants to say. If not, I
6 apologize.

7 MR. RIDER: He is not on the line.

8 MR. POPE: Sorry, I guess we missed him.

9 PRESIDING MEMBER ROSENFELD: You can't
10 get Nadel?

11 MR. RIDER: What's that?

12 PRESIDING MEMBER ROSENFELD: You can't
13 get Nadel?

14 MR. RIDER: He is not on the line any
15 longer.

16 PRESIDING MEMBER ROSENFELD: Okay.
17 Well, that seems to bring us to miscellaneous
18 public comment.

19 Gary, as far as you are concerned we are
20 through with portables.

21 MR. FLAMM: We are done with this, yes.
22 Is that what you asked?

23 PRESIDING MEMBER ROSENFELD: Yes.

24 MR. FLAMM: Yes, we are done with that.

25 PRESIDING MEMBER ROSENFELD: Any general

1 public comment?

2 No miscellaneous public out there.

3 Well staff, Bill Pennington, any wrap-
4 up?

5 MR. PENNINGTON: Is Melinda here to wrap
6 up?

7 MS. MERRITT: I'm here.

8 MR. PENNINGTON: Okay, good.

9 PRESIDING MEMBER ROSENFELD: Melinda.

10 MR. PENNINGTON: She was invisible to
11 me.

12 MS. MERRITT: I just checked, there are
13 no more blue cards so I am assuming that there is
14 no more public comment either on the proposed
15 amendments to the regulations or on the Draft
16 Environmental Impact Report. So that closes our
17 public meeting.

18 I would just remind individuals of the
19 end dates for the 45-day review period for the
20 amendments to the regulations is October 13. The
21 end date for comments on the Draft Environmental
22 Impact Report is October 6. And we look forward
23 to your cards and letters.

24 MR. PENNINGTON: I might just say that
25 we always appreciate early submittals on comments.

1 That enables staff not to have just a big down
2 time here waiting for the comments.

3 PRESIDING MEMBER ROSENFELD: Yes, the
4 earlier the better. The earlier and briefer and
5 more explicit the better.

6 Commissioner Pfannenstiel has some
7 parting comment.

8 MR. PENNINGTON: Yes, it is in fact a
9 parting comment. I want to thank all of the
10 parties who have been working so hard on this. I
11 think there's been a lot of cooperation, a lot of
12 collaboration, and I know that we have whittled
13 down the areas of disagreement in the last few
14 months. And that was from a lot of -- I know the
15 staff, Gary and others on the staff have worked
16 really hard on this and I think very effectively.

17 So to the extent we can keep working
18 that way and whittling down the differences among
19 us. It is incredibly helpful to us when we have
20 to ultimately make the decision to have the
21 benefit of everybody working together as a team.
22 So thank you for that.

23 PRESIDING MEMBER ROSENFELD: And I was
24 happy to hear Cheryl say that we need more
25 meetings at the Lighting Center where we all get

1 together and share one another's point of view.
2 But that whittling process seems to work very
3 well. Which reminds me, Mike Siminovitch, before
4 everybody else disappears, we were going to talk.

5 So I guess that's it, thank you. We are
6 getting through a little early, that's good.
7 Thanks very much.

8 (Whereupon, at 2:53 p.m., the Public
9 Hearing was adjourned.)

10 --oOo--

11

12

13

14

15

16

17

18

19

20

21

22

23

24

25

CERTIFICATE OF REPORTER

I, RAMONA COTA, an Electronic Reporter, do hereby certify that I am a disinterested person herein; that I recorded the foregoing California Energy Committee Public Hearing; that it was thereafter transcribed into typewriting.

I further certify that I am not of counsel or attorney for any of the parties to said workshop, nor in any way interested in outcome of said workshop.

IN WITNESS WHEREOF, I have hereunto set my hand this 29th day of September, 2008.

PETERS SHORTHAND REPORTING CORPORATION (916) 362-2345□